

Access DB# 27709

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: W. S. Y. C. C. K. Examiner #: 77134 Date: 4/14/00  
Art Unit: 1641 Phone Number 305-0808 Serial Number: 09/253-628  
Mail Box and Bldg/Room Location: CR 11/7416 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Recombinant biologically active human zone  
pellucida protein 3 (H2P3) to test male fertility  
Inventors (please provide full names): Ke-wen Dong, Sergio Oehringer, William E. Gibbons

Earliest Priority Filing Date: 2/19/98

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search sequences:  
Seq ID NOs 1-4

Point of Contact:  
Mona Smith  
Technical Info. Specialist  
CM1 12C14 Tel: 308-3278

Seq ID No. 1 is being claimed.

See attached claims, data sheet, relevant pages of specification, and drawings.

Thanks,  
Lisa C  
☺

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>111 SMITH</u>	NA Sequence (#) _____	STN <u>4965</u>	
Searcher Phone #: _____	AA Sequence (#) <u>1</u>	Dialog _____	
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____	
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____	
Date Completed: <u>4-28-2000</u>	Litigation _____	Lexis/Nexis _____	
Searcher Prep & Review Time: <u>35</u>	Fulltext _____	Sequence Systems _____	
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____	
Online Time: <u>20</u>	Other _____	Other (specify) _____	

**THIS PAGE BLANK (USPTO)**

Release 3.1A John F. Collins, Biocomputing Research Unit  
Copyright (c) 1993-1998 University of Edinburgh, U.K.  
Distribution rights by Oxford Molecular Ltd

```

Mpsrch_pp  protein - protein database search, using Smith-Waterman algorithm
Run on:      Fri Apr 28 14:27:17 2000;  MasPar time 3.79 Seconds
Tabular output not generated.          256.177 Million cell updates/sec

```

```

Title: >US-09-252-828-1
Description: (1-41) from US09252828 .rep
Perfect Score: 325
Sequence: 1 SWFVQGPADLCQCCKNKGDCGTPSHRRDPHYMSQMSRSYS 411

```

Scoring table: PAM 150  
Gap 11

Searched: 188963 seqs, 23686106 residues

Post-processing: Minimum Match 0%  
Listing first 45 summaries

```
Database: a-geneseq36
          1:geneseqP
```

Statistics: Mean 23.819; Variance 80.040; scale 0.298

Pred. NO. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Match	Length	DB	ID	Description	Pred. No.
1	301	92.6	223	1	R65552	Cynomolgus Monkey zona	2.30e-22
2	301	92.6	223	1	W81820	M. cynomolgus ZPC Prot	2.30e-22
3	299	92.0	372	1	R22239	Human zp3.	4.00e-22
4	253	77.8	424	1	R53498	Marmoset zp3.	1.29e-19
5	213	65.5	426	1	R55199	Canine zona pellucida	6.81e-11
6	213	65.5	426	1	W81809	Canine ZPC protein.	6.81e-11
7	195	60.0	261	1	R60165	Feline zona pellucida	8.51e-11
8	195	60.0	424	1	R47198	Feline zona pellucida	8.51e-11
9	195	60.0	424	1	R55202	Feline zona pellucida	8.51e-11
10	195	60.0	426	1	W81812	Feline ZPC protein.	8.51e-11
11	195	60.0	426	1	R48068	CZP-3.	8.51e-11
12	172	52.9	254	1	R07058	Mouse zp3 gene product	3.78e-17
13	161	49.5	428	1	R69651	Partial porcine zona p	6.73e-06
14	161	49.5	258	1	R41004	Pig ZPp-3.	6.73e-06
15	161	49.5	420	1	R69950	Porcine zona pellucida	6.73e-06
16	161	49.5	421	1	R55196	Porcine zona pellucida	6.73e-06
17	161	49.5	421	1	W81806	Porcine ZPC protein.	6.73e-06
18	156	48.0	421	1	R55205	Bovine zona pellucida	2.47e-06
19	156	48.0	421	1	W81815	Bovine ZPC protein.	2.47e-06
20	132	40.6	422	1	Y01774	Brushalt possum ZP-3	1.16e-09
21	131	40.3	415	1	W81807	Rabbit ZPC protein.	1.49e-09
22	131	40.3	415	1	R55197	Rabbit zona pellucida	1.49e-09
23	121	37.2	16	1	R65671	Human zona pellucida 3	1.83e-04

45	64	19.7	2813	1	pe00053	Human acetylcholine receptor	1.05e+02
44	64	19.7	449	1	rb6421	Acetylcholine receptor	1.05e+02
43	64	19.7	449	1	rb6421	Acetylcholine receptor	1.05e+02
42	64	19.7	449	1	rb6421	Acetylcholine receptor	1.05e+02
41	66	20.3	259	1	w41425	HSV-1 transport recep	8.53e+01
40	66	20.3	603	1	w21208	HSV-2 strain S85 Cont1	6.91e+01
39	66	20.3	532	1	w20792	Human acetylcholine r	6.91e+01
38	66	20.3	457	1	pe0361	Human acetylcholine r	6.91e+01
37	66	20.3	327	1	rb36161	Kaposi's sarcoma assoc	6.91e+01
36	66	20.3	327	1	rb36161	Kaposi's sarcoma assoc	6.91e+01
35	66	20.3	282	1	rb8515	Chicken adenovirus typ	6.91e+01
34	66	20.3	254	1	w1200	Protein encoded by ORF	6.91e+01
33	67	20.6	512	1	rb6263	Chicken acetylcholine	5.59e+01
32	67	20.6	115	1	me2671	Streptococcus pneumoni	5.59e+01
31	70	21.5	2050	1	w60117	Human mature von Wille	5.59e+01
30	70	21.5	21	1	me9478	Addition sequence used	2.94e+00
29	72	22.2	338	1	y04123	Caspace activated nucle	1.91e+00
28	73	22.5	999	1	rb30742	Human pemphigus vulgar	1.53e+00
27	73	22.5	614	1	w07908	Pemphigus vulgaris ant	1.53e+00
26	75	23.1	10	1	w61326	Zona pellucida protein	9.88e+00
25	114	35.1	15	1	w61323	Zona pellucida protein	1.03e+03
24	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
23	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
22	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
21	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
20	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
19	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
18	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
17	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
16	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04
15	121	37.2	404	1	y01773	Tammam wallaby ZP-3 pr	1.35e+04

## ALIGNMENTS

```

RESULT 1
ID R65552 standard; Protein; 223 AA.
AC R65552.
DE 03-FEB-1995 (first entry)
DT Cynomolgus Monkey zona pellucida ZPC protein.
KW Cynomolgus Monkey; zona pellucida; ZPC; Immunoccontraception.
OS Macaca cynomolgus.
PN MO9411019-A.
PD 26-MAY-1994.
PF 06-NOV-1993; U10851.
PR 09-NOV-1992; US-973841.
RR 29-JAN-1993; US-012990.
PA (ZONA-) ZOMAGEN INC.
PR Harris JD, Hsu KT, Podolski JS;
PI WPI; 94-183156/22.
DR N-PSDB; 079682.
PT Use of zona pellucida proteins and antibodies - for inducing
PT Reproducible transient infertility or permanent sterility in
PT female mammals.
PS Example 12; Page 132-133; 154pp; English.
SC Cynomolgus monkey cDNA libraries were constructed in lambda gt10
CC using mRNA isolated from a set of ovaries collected from monkeys
CC aged 1.5 and 2 years and a second set from monkeys aged 3, 4 and 14
CC years of age. The libraries were screened with probes encoding
CC porcine ZPA, ZPB and ZPC proteins. Positive clones were analysed
CC further by Southern hybridisation using the porcine probes. Clones
CC encoding Cynomolgus monkey ZPA, ZPB and ZPC proteins were
CC identified (see Q79680-Q79682). Q79682 is the insert from the
CC largest partial ZPC clone which contains just over 50% of the
CC C-terminal portion of the full-length sequence and contains an ORF
CC of 672bp; R65552 is the amino acid sequence deduced from the ORF.
SQ Sequence 223 AA;

Query Match 92.6%; Score 301; DB 1; Length 223;
Best Local Similarity 90.2%; Pred. No. 2,30e-25;
Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0

DB 107 SWFPEGPAADICCCCKGDCGTFBSHRQRPVYQWMSRSAS 147
      |||:|||||:|||||:|||||:|||||:|||||:
QY 1 SWFPGGPAADICCCCKNGDCGTFBSHRQRPVYQWMSRSYS 41
      |||:|||||:|||||:|||||:|||||:|||||:

RESULT 2
ID W81820 standard; Protein; 223 AA.
AC W81820.
DT 29-JAN-1999 (first entry)
DE M. cynomolgus ZPC protein.

```





CC (R55202) from the feline ZPC clone was approximately 70% homologous  
CC to canine ZPC protein.  
SQ Sequence 424 AA;

Query Match 60.0%; Score 195; DB 1; Length 424;  
Best Local Similarity 55.0%; Pred. No. 8,51e-13;  
Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;

DB 307 WFPVGPADICCCCKGSCGLGRSRLSHLDRPMHKMS 346  
||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:  
QY 2 WFPVGPADICCCCKGSCGLGRSRLSHLDRPMHKMS 41

RESULT 10  
ID W81812 standard; Protein; 424 AA.

AC W81812;  
DT 29-JAN-1999 (first entry)  
DE Feline ZPC protein.  
KW 2PC; zona pellucida; infertility; sterility; immunocontraceptive;  
KW vaccine; feline.  
OS Felis sp.  
PN US5837497-A.  
PD 17-NOV-1998.  
PF 07-JUN-1995; 484993.  
PR 09-NOV-1993; US-149223.  
PR 08-NOV-1992; US-973341.  
PR 29-JAN-1993; US-012990.  
PR 07-JUN-1995; US-484993.  
PA (ZONA-) ZONAGEN INC.  
PI Harris JD;  
DR WPI: 99-023447/02.  
DR N-PSDB; V64794.

PT Isolated zona pellucida DNA from different mammals - used to develop  
PT products which can be used for vaccination to induce transient  
PT infertility or permanent sterility in female mammals  
PS Claim 5: Column 99-102; 84pp; English.  
CC This sequence represents a feline ZPC protein isolated from zona  
CC pellucida. This protein can be used in a method for specifically  
CC inducing transient infertility or permanent sterility in a host  
CC animal by selective vaccination with specific zona pellucida proteins  
CC or immunocontraceptively active fragments.  
SQ Sequence 424 AA;

Query Match 60.0%; Score 195; DB 1; Length 424;  
Best Local Similarity 55.0%; Pred. No. 8,51e-13;  
Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;  
DB 307 WFPVGPADICCCCKGSCGLGRSRLSHLDRPMHKMS 346  
||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:  
QY 2 WFPVGPADICCCCKGSCGLGRSRLSHLDRPMHKMS 41

RESULT 11  
ID R48068 standard; Protein; 426 AA.  
AC R48068;  
DT 05-AUG-1994 (first entry)  
DE C2P-3.  
KW Canine; dog; contraceptive; C2P; canine zona pellucida;  
KW transformant; E.coli; clone.  
OS Canis familiaris.  
PN J05336974-A.  
PD 21-DEC-1993.  
PF 15-DEC-1992; 353990.  
PR 26-DEC-1991; JP-357671.  
PA (TOFU) TONEN CORP.  
DR WPI: 94-051146/07.  
DR N-PSDB; 055424.  
PT Isolated canine zona pellucida C2P-3 - for use in contraceptive  
PT vaccine  
PS Claim 2; Page 11; 17pp; Japanese.  
CC The sequence shows a C2P-3 protein which can be used as a  
CC preparation for a contraceptive for dogs. The C2P-3 gene is cloned  
CC using primers (Q55425-26) into E.coli. The resulting transformant

CC produces the protein.  
SQ Sequence 426 AA;

Query Match 60.0%; Score 195; DB 1; Length 426;  
Best Local Similarity 59.0%; Pred. No. 8,51e-13;  
Matches 23; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

DB 308 YPEVGSADICCCCKGSCGLGRSRLSHLGRMKRSYS 346  
||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:  
QY 3 YPEVGSADICCCCKGSCGLGRSRLSHLGRMKRSYS 41

RESULT 12  
ID R07058 standard; Protein; 424 AA.

AC R07058;  
DT 18-JAN-1991 (first entry)  
DE Mouse ZP3 gene product epitopic for Ab which inhibits fertilisation  
DE of an oocyte by a sperm in mammalian female.  
KW Contraceptive; ZP3 protein; zona pellucida.  
OS Mus musculus.  
PN US7364379-A.  
PD 28-AUG-1990.  
PF 12-JUN-1989; 364379.  
PR 12-JUN-1989; US-364379.  
PA (USSH) NAT INST DIABETES.  
PI Jurrien D;  
DR WPI: 90-297734/39.  
DR N-PSDB; 006128.

PT Contraceptive antibody vaccine for mammalian female - comprises  
PT peptide epitope of zona pellucida protein, minimises possibility  
PT of birth defects if failed contraception.  
PS Disclosure; Fig 1; 93pp; English.  
CC Vaccine provides long term, non-permanent contraception in mammals,  
CC by inhibition of fertilisation rather than abortive methods, thus  
CC minimising risk of birth defects.  
CC Gene product comprises epitope to zona pellucida protein and vectors  
CC and transformed expression systems are also claimed.  
SQ Sequence 424 AA;

Query Match 52.9%; Score 172; DB 1; Length 424;  
Best Local Similarity 53.7%; Pred. No. 3,78e-10;  
Matches 22; Conservative 9; Mismatches 10; Indels 0; Gaps 0;  
DB 309 SWLPEVGDADICCCCKGSCGNSSSSQFQIHGRQMSKYS 349  
||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:  
QY 1 SWLPEVGDADICCCCKGSCGNSSSSQFQIHGRQMSKYS 41

RESULT 13  
ID R96951 standard; Protein; 258 AA.  
AC R96951;  
DT 18-JUL-1996 (first entry)  
DE Partial porcine zona pellucida 3, PZP-3(258).  
KW PZP-3; porcine zona pellucida 3; contraceptive vaccine; antigen;  
KW PZP-3(258); ds.  
OS Sus scrofa.  
FH Key  
FH Location/Qualifiers  
FT 1. 258  
FT /label= PZP-3(258)  
FT /note= "corresponds to amino acids 106-363 of PZP-3  
(R96950)"

PN J06179698-A.  
PD 28-JUN-1994.  
PF 15-DEC-1992; 353992.  
PR 15-DEC-1992; JP-353992.  
PA (TOFU) TONEN CORP.  
DR WPI: 94-245693/30.  
DR N-PSDB; T14908.  
PT Pig zona pellucida-3 related peptide(s) - useful as contraceptive  
PT vaccine antigen  
PS Example 1; Fig 1; 14pp; Japanese.  
CC The present sequence is that of recombinant porcine zona pellucida 3  
CC (PZP-3) 258 (R96951). In the specification it is stated that PZP-3(258)



**THIS PAGE BLANK (USPTO)**







```
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: (212) 758-4800  
CC TELEFAX: (212) 751-6849  
CC TELEX: 421792  
CC INFORMATION FOR SEQ ID NO: 7:  
CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 424  
CC TYPE: amino acid  
CC STRANDEDNESS: single  
CC TOPOLOGY: unknown  
CC MOLECULE TYPE: protein  
CC ORIGINAL SOURCE:  
CC ORGANISM: human  
CC STRAIN:  
CC INDIVIDUAL ISOLATE:  
CC DEVELOPMENTAL STAGE:  
CC HARLOTTYPE:  
CC TISSUE TYPE:  
CC CELL TYPE:  
CC CELL LINE:  
CC ORGANELLE:  
CC FEATURE:  
CC NAME/KEY: ZP3  
CC LOCATION:  
CC IDENTIFICATION METHOD:  
CC OTHER INFORMATION: human ZP3 protein  
CC  
SQ SEQUENCE 424 AA; 47028 MW; 954880 CN;  
  
Query Match 96.6%; Score 314; DB 1; Length 424;  
Best Local Similarity 95.1%; Pred. No. 1,37e-25;  
Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0.  
  
Db 308 SWPVEGPADICCCNKGDCGTPSHSRQPHVMSQWSRSAS 348  
      |||||  
Qy 1 SWFPVGPDADICCCNKKGDCTPSHSRRQPHVMSQWSRSVS 41  
      |||||  
  
RESULT 4 STANDARD: PRT; 424 AA.  
ID US-08-484-158B-61  
XX xxxxxx  
XX  
DT  
DE Sequence 61, Application US/08484158B  
CC  
CC Sequence 61, Application US/08484158B  
CC Patent No. 5976545  
CC GENERAL INFORMATION:  
CC APPLICANT: Harris Ph.D., Jeffrey D.  
CC APPLICANT: Hsu, Kuang T.  
CC APPLICANT: Podolski, Joseph S.  
CC TITLE OF INVENTION: Pharmaceutical Compositions for  
CC TITLE OF INVENTION: Immunoccontraception  
CC NUMBER OF SEQUENCES: 61  
CC CORRESPONDENCE ADDRESS:  
CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray &  
CC ADDRESSEE: Borun  
CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
CC CITY: Chicago  
CC STATE: Illinois  
CC COUNTRY: United States of America  
CC ZIP: 60606-6402  
CC COMPUTER READABLE FORM:  
CC MEDIUM TYPE: Floppy disk  
CC COMPUTER: IBM PC compatible  
CC OPERATING SYSTEM: PC-DOS/MS-DOS  
CC SOFTWARE: Patentin Release #1.0, Version #1.25  
CC CURRENT APPLICATION DATA:  
CC APPLICATION NUMBER: US/08/484,158B  
CC FILING DATE: 07-JUNE-95  
CC CLASSIFICATION: 514  
CC PRIOR APPLICATION DATA:
```

CC	APPLICATION NUMBER: 08/149,223
CC	FILING DATE: 09-NOV-93
CC	PRIOR APPLICATION DATA:
CC	APPLICATION NUMBER: 08/012,990
CC	FILING DATE: 29-JAN-93
CC	PRIOR APPLICATION DATA:
CC	APPLICATION NUMBER: 07/973,341
CC	FILING DATE: 09-NOV-92
CC	ATTORNEY/AGENT INFORMATION:
CC	NAME: Clough, David W
CC	REGISTRATION NUMBER: 36,107
CC	REFERENCE/DOCKET NUMBER: 32794
CC	TELECOMMUNICATION INFORMATION:
CC	TELEPHONE: 312/474-6653
CC	TELEFAX: 312/474-0448
CC	TELEX: 25-3856
CC	INFORMATION FOR SEQ. ID NO: 61:
CC	SEQUENCE CHARACTERISTICS:
CC	LENGTH: 424 amino acids
CC	TYPE: amino acid
CC	TOPOLOGY: linear
CC	MOLECULE TYPE: protein
CC	DESCRIPTION: /desc =
CC	DESCRIPTION: "deduced amino acid sequence of human ZPC"
CC	SEQUENCE 424 AA; 47028 MW; 954880 CN;
CC	
CC	Query Match 96.6%; Score 314; DB 2; Length 424;
CC	Best Local Similarity 95.1%; Pred.No. 1.37e-25;
CC	Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Db	308 SWPVEGPDADICCCNKGDCGTPSHSRORHYWQMSRSAS 348
QY	1 SWPVGPDADICCCNKGDCGTPSHSRORHYWQMSRSVS 41
RESULT	5
ID	US-08-862-903-7 STANDARD; PRT; 424 AA.
XX	xxxxxx
XX	
XX	
DE	Sequence 7, Application US/08862903
CC	Sequence 7, Application US/08862903
CC	Patent No. 5916768
CC	GENERAL INFORMATION:
CC	APPLICANT: DEAN, JURRIEN
CC	TITLE OF INVENTION: CONTRACEPTIVE VACCINE
CC	TITLE OF INVENTION: BASED ON ALLOIMMUNIZATION WITH ZONA PELLUCIDA
CC	TITLE OF INVENTION: POLYPEPTIDES
CC	NUMBER OF SEQUENCES: 12
CC	CORRESPONDENCE ADDRESS:
CC	ADDRESSEE: MORGAN & FINNEGAN
CC	STREET: 345 PARK AVENUE
CC	CITY: NEW YORK
CC	STATE: NEW YORK
CC	COUNTRY: USA
CC	ZIP: 10154
CC	COMPUTER READABLE FORM:
CC	MEDIUM TYPE: FLOPPY DISK
CC	COMPUTER: IBM PC COMPATIBLE
CC	OPERATING SYSTEM: PC-DOS/MS-DOS
CC	SOFTWARE: WORDPERFECT 5.1
CC	CURRENT APPLICATION DATA:
CC	APPLICATION NUMBER: US/08/862,903
CC	FILING DATE: 30-May-1995
CC	CLASSIFICATION: 424
CC	PRIOR APPLICATION DATA:
CC	APPLICATION NUMBER: US 08/038,948
CC	FILING DATE: 26-MAR-1993
CC	PRIOR APPLICATION DATA:
CC	APPLICATION NUMBER: US 07/930,462

CC FILING DATE: 20-AUG-1992  
 CC PRIOR APPLICATION DATA:  
 CC APPLICATION NUMBER: US 07/364,379  
 CC FILING DATE: 12-JUN-1989  
 CC ATTORNEY/AGENT INFORMATION:  
 CC NAME: DOROTHY R. AUTH  
 CC REGISTRATION NUMBER: 36,434  
 CC REFERENCE/DOCKET NUMBER: 2026-4032 US4  
 CC TELECOMMUNICATION INFORMATION:  
 CC TELEPHONE: (212) 758-4800  
 CC TELEFAX: (212) 751-6849  
 CC INFORMATION FOR SEQ ID NO: 7:  
 CC SEQUENCE CHARACTERISTICS:  
 CC LENGTH: 424  
 CC TYPE: amino acid  
 CC STRANDEDNESS: single  
 CC TOPOLOGY: unknown  
 CC MOLECULE TYPE: protein  
 CC ORIGINAL SOURCE:  
 CC ORGANISM: human  
 CC STRAIN:  
 CC INDIVIDUAL ISOLATE:  
 CC DEVELOPMENTAL STAGE:  
 CC HARLOTPE:  
 CC TISSUE TYPE:  
 CC CELL LINE:  
 CC ORGANELLE:  
 CC FEATURE:  
 CC NAME/KEY: ZP3  
 CC LOCATION:  
 CC IDENTIFICATION METHOD:  
 CC OTHER INFORMATION: human ZP3 protein  
 CC SEQUENCE 424 AA; 47028 MW; 954880 CN;  
 CC  
 CC Query Match 96.6%; Score 314; DB 2; Length 424;  
 CC Best Local Similarity 95.1%; Pred. No. 1.37e-25;  
 CC Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 CC  
 CC Db 308 SWFVPGPADICCCCNKGDCTPSHSRQPHVMSQMSRSVS 41  
 CC 1 SWFVPGPADICCCCNKGDCTPSHSRQPHVMSQMSRSVS 41  
 CC  
 CC RESULT 6  
 CC ID US-08-484-993B-49 STANDARD; PRT; 223 AA.  
 CC XX  
 CC xxxxxx  
 CC  
 CC Sequence 49, Application US/08484993B  
 CC Patent No. 5837497  
 CC GENERAL INFORMATION:  
 CC APPLICANT: Harris Ph.D., Jeffrey D.  
 CC APPLICANT: Hsu, Kuang T.  
 CC APPLICANT: Podolski, Joseph S.  
 CC TITLE OF INVENTION: Materials and Methods for Immunocontraception  
 CC NUMBER OF SEQUENCES: 59  
 CC CORRESPONDENCE ADDRESS:  
 CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun  
 CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
 CC CITY: Chicago  
 CC STATE: Illinois  
 CC COUNTRY: United States of America  
 CC ZIP: 60606-6402  
 CC COMPUTER READABLE FORM:  
 CC MEDIUM TYPE: Floppy disk  
 CC COMPUTER: IBM PC compatible  
 CC OPERATING SYSTEM: PC-DOS/MS-DOS

CC SOFTWARE: Patentin Release #1.0, Version #1.25  
 CC CURRENT APPLICATION DATA:  
 CC APPLICATION NUMBER: US/08/484,993B  
 CC FILING DATE: 09-NOV-1993  
 CC CLASSIFICATION: 424  
 CC PRIOR APPLICATION DATA:  
 CC APPLICATION NUMBER: 08/012,990  
 CC FILING DATE: 29-JAN-1993  
 CC PRIOR APPLICATION DATA:  
 CC APPLICATION NUMBER: 07/973,341  
 CC FILING DATE: 09-NOV-1992  
 CC ATTORNEY/AGENT INFORMATION:  
 CC NAME: Clough, David W.  
 CC REGISTRATION NUMBER: 36,107  
 CC REFERENCE/DOCKET NUMBER: 31745  
 CC TELECOMMUNICATION INFORMATION:  
 CC TELEPHONE: 312/474-6653  
 CC TELEFAX: 312/474-0448  
 CC INFORMATION FOR SEQ ID NO: 49:  
 CC SEQUENCE CHARACTERISTICS:  
 CC LENGTH: 223 amino acids  
 CC TYPE: amino acid  
 CC TOPOLOGY: linear  
 CC MOLECULE TYPE: protein  
 CC SEQUENCE 223 AA; 24553 MW; 26656 CN;  
 CC  
 CC Query Match 92.6%; Score 301; DB 2; Length 223;  
 CC Best Local Similarity 90.2%; Pred. No. 4.11e-24;  
 CC Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;  
 CC  
 CC Db 107 SWFVPGPADICCCCNKGDCTPSHSRQPHVMSQMSRSVS 147  
 CC 1 SWFVPGPADICCCCNKGDCTPSHSRQPHVMSQMSRSVS 41  
 CC  
 CC RESULT 7  
 CC ID US-08-484-158B-49 STANDARD; PRT; 223 AA.  
 CC XX  
 CC xxxxxx  
 CC  
 CC Sequence 49, Application US/08484158B  
 CC Patent No. 5976545  
 CC GENERAL INFORMATION:  
 CC APPLICANT: Harris Ph.D., Jeffrey D.  
 CC APPLICANT: Hsu, Kuang T.  
 CC APPLICANT: Podolski, Joseph S.  
 CC TITLE OF INVENTION: Pharmaceutical Compositions for  
 CC NUMBER OF SEQUENCES: 61  
 CC CORRESPONDENCE ADDRESS:  
 CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray &  
 CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
 CC CITY: Chicago  
 CC STATE: Illinois  
 CC COUNTRY: United States of America  
 CC ZIP: 60606-6402  
 CC COMPUTER READABLE FORM:  
 CC MEDIUM TYPE: Floppy disk  
 CC COMPUTER: IBM PC compatible  
 CC OPERATING SYSTEM: PC-DOS/MS-DOS  
 CC SOFTWARE: Patentin Release #1.0, Version #1.25  
 CC CURRENT APPLICATION DATA:  
 CC APPLICATION NUMBER: US/08/484,158B  
 CC FILING DATE: 07-JUNE-95  
 CC CLASSIFICATION: 514  
 CC PRIOR APPLICATION DATA:  
 CC APPLICATION NUMBER: 08/149,223

CC FILING DATE: 09-NOV-93  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: 08/012,990  
CC FILING DATE: 29-JAN-93  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: 07/973,341  
CC FILING DATE: 09-NOV-92  
CC ATTORNEY/AGENT INFORMATION:  
CC NAME: Clough, David W.  
CC REGISTRATION NUMBER: 36,107  
CC REFERENCE/DOCKET NUMBER: 32794  
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: 312/474-6653  
CC TELEFAX: 312/474-0448  
CC TELEEX: 25-3856  
CC INFORMATION FOR SEQ ID NO: 49:  
CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 223 amino acids  
CC TYPE: amino acid  
CC TOPOLOGY: linear  
CC MOLECULE TYPE: protein  
CC SEQUENCE 223 AA: 24553 MW: 266656 CN;  
SQ  
Query Match 92.6%; Score 301; DB 2; Length 223;  
Best Local Similarity 90.2%; Pred. No. 4,11e-24;  
Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;  
DB 107 SWFPVGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 147  
Y 1 SWFPVGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 41  
RESULT 8  
ID -US-08-484-596A-49 STANDARD: PRT: 223 AA.  
AC xxxxxx  
XX  
XX  
DE Sequence 49, Application US/08484596A  
CC Sequence 49, Application US/08484596A  
CC Patent No. 5961228  
CC GENERAL INFORMATION:  
CC APPLICANT: Harris Ph.D., Jeffrey D.  
CC APPLICANT: Hsu, Kuang T.  
CC APPLICANT: Podolski, Joseph S.  
CC TITLE OF INVENTION: Materials and Methods for Immunoccontraception  
CC NUMBER OF SEQUENCES: 59  
CC CORRESPONDENCE ADDRESS:  
CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun  
CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
CC CITY: Chicago  
CC STATE: Illinois  
CC COUNTRY: United States of America  
CC ZIP: 60606-6402  
CC COMPUTER READABLE FORM:  
CC MEDIUM TYPE: Floppy disk  
CC COMPUTER: IBM PC compatible  
CC OPERATING SYSTEM: PC-DOS/MS-DOS  
CC SOFTWARE: Patentin Release #1.0, Version #1.25  
CC CURRENT APPLICATION DATA:  
CC APPLICATION NUMBER: US/08/484,596A  
CC FILING DATE:  
CC FILING DATE: 09-NOV-1992  
CC CLASSIFICATION:  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: 08/149,223  
CC FILING DATE: 11-NOV-1993  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: 07/973,341  
CC FILING DATE: 09-NOV-1992  
CC ATTORNEY/AGENT INFORMATION:  
CC NAME: Clough, David W.

CC REGISTRATION NUMBER: 36,107  
CC REFERENCE/DOCKET NUMBER: 31745  
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: 312/474-6653  
CC TELEFAX: 312/474-0448  
CC TELEEX: 25-3856  
CC INFORMATION FOR SEQ ID NO: 49:  
CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 223 amino acids  
CC TYPE: amino acid  
CC TOPOLOGY: linear  
CC MOLECULE TYPE: protein  
CC SEQUENCE 223 AA: 24553 MW: 266656 CN;  
SQ  
Query Match 92.6%; Score 301; DB 2; Length 223;  
Best Local Similarity 90.2%; Pred. No. 4,11e-24;  
Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;  
DB 107 SWFPVGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 147  
Y 1 SWFPVGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 41  
RESULT 9  
ID US-08-480-150A-49 STANDARD: PRT: 223 AA.  
AC xxxxxx  
XX  
XX  
DE Sequence 49, Application US/08480150A  
CC Sequence 49, Application US/08480150A  
CC Patent No. 5989550  
CC GENERAL INFORMATION:  
CC APPLICANT: Harris Ph.D., Jeffrey D.  
CC APPLICANT: Hsu, Kuang T.  
CC APPLICANT: Podolski, Joseph S.  
CC TITLE OF INVENTION: Materials and Methods for Immunoccontraception  
CC NUMBER OF SEQUENCES: 59  
CC CORRESPONDENCE ADDRESS:  
CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun  
CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
CC CITY: Chicago  
CC STATE: Illinois  
CC COUNTRY: United States of America  
CC ZIP: 60606-6402  
CC COMPUTER READABLE FORM:  
CC MEDIUM TYPE: Floppy disk  
CC COMPUTER: IBM PC compatible  
CC OPERATING SYSTEM: PC-DOS/MS-DOS  
CC SOFTWARE: Patentin Release #1.0, Version #1.25  
CC CURRENT APPLICATION DATA:  
CC APPLICATION NUMBER: US/08/480,150A  
CC FILING DATE:  
CC FILING DATE: 07-JUN-1995  
CC CLASSIFICATION: 424  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: US 08/149,223  
CC FILING DATE: 09-NOV-1993  
CC APPLICATION NUMBER: 08/012,990  
CC FILING DATE: 29-JAN-1993  
CC PRIOR APPLICATION DATA:  
CC APPLICATION NUMBER: 07/973,341  
CC FILING DATE: 09-NOV-1992  
CC ATTORNEY/AGENT INFORMATION:  
CC NAME: Clough, David W.  
CC REGISTRATION NUMBER: 36,107  
CC REFERENCE/DOCKET NUMBER: 31745  
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: 312/474-6653  
CC TELEFAX: 312/474-0448  
CC TELEEX: 25-3856  
CC INFORMATION FOR SEQ ID NO: 49:

CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 223 amino acids  
CC TYPE: amino acid  
CC TOPOLOGY: linear  
CC MOLECULE TYPE: protein  
SQ SEQUENCE 223 AA: 24553 MW: 266656 CN:

Query Match 92.6%; Score 301; DB 2; Length 223;  
Best Local Similarity 90.2%; Pred. No. 4,11e-24;  
Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 107 SWFVGPADICCCCKGDCGTPSHSRPHVWSOMSRVS 147  
QY 1 SWFVGPADICCCCKGDCGTPSHSRPHVWSOMSRVS 41

RESULT 10  
ID US-08-484-596A-12 STANDARD; PRT; 426 AA.  
AC xxxxxx  
DT  
DE

Sequence 12, Application US/08484596A

Patent No. 5981228

GENERAL INFORMATION:

APPLICANT: Harris Ph.D., Jeffrey D.

APPLICANT: Hsu, Kuang T.

APPLICANT: Podolski, Joseph S.

TITLE OF INVENTION: Materials and Methods for Immunocotraception

NUMBER OF SEQUENCES: 59

CORRESPONDENCE ADDRESS:

ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun

STREET: 6300 Sears Tower, 233 South Wacker Drive

City: Chicago

STATE: Illinois

COUNTRY: United States of America

ZIP: 60606-6402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/484,596A

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/149,223

FILING DATE: 11-NOV-1993

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/973,341

FILING DATE: 09-NOV-1992

ATTORNEY/AGENT INFORMATION:

NAME: Clough, David W.

REGISTRATION NUMBER: 36,107

REFERENCE/DOCKET NUMBER: 31745

TELECOMMUNICATION INFORMATION:

TELEPHONE: 312/474-6653

TELEFAX: 312/474-0448

TELEX: 25-3856

INFORMATION FOR SEQ ID NO: 12:

SEQUENCE CHARACTERISTICS:

LENGTH: 426 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE 426 AA: 47367 MW: 972293 CN:

Query Match 65.5%; Score 213; DB 2; Length 426;

Best Local Similarity 60.0%; Pred. No. 3.05e-14;

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

Db 307 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 346

QY 2 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 41

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

Db 307 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 346  
QY 2 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 41

RESULT 11  
ID US-08-480-150A-12 STANDARD; PRT; 426 AA.  
AC xxxxxx  
DT  
DE

Sequence 12, Application US/08480150A

Patent No. 5989550

GENERAL INFORMATION:

APPLICANT: Harris Ph.D., Jeffrey D.

APPLICANT: Hsu, Kuang T.

APPLICANT: Podolski, Joseph S.

TITLE OF INVENTION: Materials and Methods for Immunocotraception

NUMBER OF SEQUENCES: 59

CORRESPONDENCE ADDRESS:

ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun

STREET: 6300 Sears Tower, 233 South Wacker Drive

City: Chicago

STATE: Illinois

COUNTRY: United States of America

ZIP: 60606-6402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/480,150A

FILING DATE: 07-JUN-1995

CLASSIFICATION: 424

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/149,223

FILING DATE: 09-NOV-1993

APPLICATION NUMBER: 08/012,990

FILING DATE: 29-JAN-1993

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/973,341

FILING DATE: 09-NOV-1992

ATTORNEY/AGENT INFORMATION:

NAME: Clough, David W.

REGISTRATION NUMBER: 36,107

REFERENCE/DOCKET NUMBER: 31745

TELECOMMUNICATION INFORMATION:

TELEPHONE: 312/474-6653

TELEFAX: 312/474-0448

TELEX: 25-3856

INFORMATION FOR SEQ ID NO: 12:

SEQUENCE CHARACTERISTICS:

LENGTH: 426 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE 426 AA: 47367 MW: 972293 CN:

Query Match 65.5%; Score 213; DB 2; Length 426;

Best Local Similarity 60.0%; Pred. No. 3.05e-14;

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

Db 307 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 346

QY 2 WYFVGSADICRCCKGSGCLPGRSRRLSHLGRWRSVS 41



CC APPLICANT: Hsu, Kuang T.  
CC APPLICANT: Podolski, Joseph S.  
CC TITLE OF INVENTION: Materials and Methods for Immunocontraception  
CC NUMBER OF SEQUENCES: 59  
CC CORRESPONDENCE ADDRESSES:  
CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun  
CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
CC CITY: Chicago  
CC STATE: Illinois  
CC COUNTRY: United States of America  
CC ZIP: 60606-6402  
CC COMPUTER READABLE FORM:  
CC MEDIUM TYPE: Floppy disk  
CC COMPUTER: IBM PC compatible  
CC OPERATING SYSTEM: PC-DOS/MS-DOS  
CC SOFTWARE: Patent In Release #1.0, Version #1.25  
CC CURRENT APPLICATION DATA:  
CC APPLICATION NUMBER: US/08/484,993B  
CC FILING DATE: 09-NOV-1993  
CC CLASSIFICATION: 424  
CC PRIORITY APPLICATION DATA:  
CC APPLICATION NUMBER: 08/012,990  
CC FILING DATE: 29-JAN-1993  
CC PRIORITY APPLICATION DATA:  
CC APPLICATION NUMBER: 07/973,341  
CC FILING DATE: 09-NOV-1992  
CC ATTORNEY/AGENT INFORMATION:  
CC NAME: Clough, David W.  
CC REGISTRATION NUMBER: 36,107  
CC REFERENCE/DOCKET NUMBER: 31745  
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: 312/474-6653  
CC TELEFAX: 312/474-0448  
CC TELEX: 25-3856  
CC INFORMATION FOR SEQ ID NO: 18:  
CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 424 amino acids  
CC TYPE: amino acid  
CC TOPOLOGY: linear  
CC MOLECULE TYPE: protein  
CC SEQUENCE 424 AA: 46853 MW: 929900 CN:  
SQ  
Query Match 60.0%; Score 195; DB 2; Length 424;  
Best Local Similarity 55.0%; Pred. No. 2.92e-12;  
Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;  
Db 307 WFPVGPADICCCCKGDCGTPSHSRQPHVMSQWSRSVS 41  
QY 2 WFPVGPADICCCCKGDCGTPSHSRQPHVMSQWSRSVS 41  
RESULT 15  
ID US-08-480-150A-18 STANDARD: PRT; 424 AA.  
AC xxxxxx  
XX  
XX  
DT  
Sequence 18, Application US/08480150A  
Sequence 18, Application US/08480150A  
Patent No. 5989550  
GENERAL INFORMATION:  
CC APPLICANT: Harris Ph.D., Jeffrey D.  
CC APPLICANT: Hsu, Kuang T.  
CC APPLICANT: Podolski, Joseph S.  
CC TITLE OF INVENTION: Materials and Methods for Immunocontraception  
CC NUMBER OF SEQUENCES: 59  
CC CORRESPONDENCE ADDRESSES:  
CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun  
CC STREET: 6300 Sears Tower, 233 South Wacker Drive  
CC CITY: Chicago  
CC STATE: Illinois

CC COUNTRY: United States of America  
CC ZIP: 60606-6402  
CC COMPUTER READABLE FORM:  
CC MEDIUM TYPE: Floppy disk  
CC COMPUTER: IBM PC compatible  
CC OPERATING SYSTEM: PC-DOS/MS-DOS  
CC SOFTWARE: Patent In Release #1.0, Version #1.25  
CC CURRENT APPLICATION DATA:  
CC APPLICATION NUMBER: US/08/480,150A  
CC FILING DATE: 07-JUN-1995  
CC CLASSIFICATION: 424  
CC PRIORITY APPLICATION DATA:  
CC APPLICATION NUMBER: US 08/149,223  
CC FILING DATE: 09-NOV-1993  
CC APPLICATION NUMBER: 08/012,990  
CC FILING DATE: 29-JAN-1993  
CC PRIORITY APPLICATION DATA:  
CC APPLICATION NUMBER: 07/973,341  
CC FILING DATE: 09-NOV-1992  
CC ATTORNEY/AGENT INFORMATION:  
CC NAME: Clough, David W.  
CC REGISTRATION NUMBER: 36,107  
CC REFERENCE/DOCKET NUMBER: 31745  
CC TELECOMMUNICATION INFORMATION:  
CC TELEPHONE: 312/474-6653  
CC TELEFAX: 312/474-0448  
CC TELEX: 25-3856  
CC INFORMATION FOR SEQ ID NO: 18:  
CC SEQUENCE CHARACTERISTICS:  
CC LENGTH: 424 amino acids  
CC TYPE: amino acid  
CC TOPOLOGY: linear  
CC MOLECULE TYPE: protein  
CC SEQUENCE 424 AA: 46853 MW: 929900 CN:  
SQ  
Query Match 60.0%; Score 195; DB 2; Length 424;  
Best Local Similarity 55.0%; Pred. No. 2.92e-12;  
Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;  
Db 307 WFPVGPADICCCCKGDCGTPSHSRQPHVMSQWSRSVS 41  
QY 2 WFPVGPADICCCCKGDCGTPSHSRQPHVMSQWSRSVS 41  
Search completed: Fri Apr 28 14:28:28 2000  
Job time: 20 secs.



\*\*\*\*\*  
 W O R L D  
 (TM)  
 \*\*\*\*\*

Release 3.1A John F. Collins, Biocomputing Research Unit.  
 Copyright (c) 1993-1998 University of Edinburgh, U.K.  
 Distribution rights by Oxford Molecular Ltd

\*\*\*\*\*  
 Msrch\_pp protein - protein database search, using Smith-Waterman algorithm  
 Run on: Fri Apr 28 14:26:04 2000; MasPar time 5.82 Seconds  
 332.252 Million cell updates/sec  
 Tabular output not generated.

Title: >US-09-252-828-1  
 Description: (1-41) from US09252828.pep  
 Perfect Score: 325  
 Sequence: 1 SWFPVQGPADICQCCNKKGDCGTPSHSRQPHVMQMSRVS 41

Scoring table: PAM 150  
 Gap 11

Searched: 142080 seqs, 47172406 residues

Post-processing: Minimum Match 0%  
 Listing first 45 summaries

Database: pif62  
 1:Pif1 2:Pif2 3:Pif3 4:Pif4

Statistics: Mean 31.323; Variance 49.714; scale 0.630

Pred. No. is the number of results predicted by chance to have a  
 score greater than or equal to the score of the result being printed,  
 and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	314	96.6	424	1	A36000 sperm-binding glycopr	3.56e-55
2	287	88.3	210	2	A56844 POM-ZP3 protein - hum	1.63e-48
3	213	65.5	426	2	S70396 zona pellucida glycop	1.13e-30
4	197	60.6	422	1	A60503 sperm-binding glycop	6.33e-27
5	195	60.0	424	2	S70399 zona pellucida glycop	1.85e-26
6	172	52.9	424	1	A30334 sperm-binding glycop	3.54e-21
7	161	49.5	421	1	S70433 zona pellucida glycop	1.07e-18
8	156	48.0	421	1	S70402 zona pellucida glycop	1.39e-17
9	131	40.3	415	2	S70401 zona pellucida glycop	3.81e-12
10	129	39.7	44	2	B44365 sperm receptor ligand	1.01e-11
11	82	25.2	428	1	S52845 ZP3 protein - goldfif	1.80e-02
12	81	24.9	58	2	S35573 zona pellucida glycop	2.71e-02
13	81	24.9	422	2	S52848 egg membrane protein	2.71e-02
14	80	24.6	388	2	S52716 sperm receptor ZP3 -	4.06e-02
15	80	24.6	424	2	S52847 egg membrane protein	4.06e-02
16	74	22.8	74	2	A60518 acanthophin d - death	4.32e-01
17	73	22.5	499	1	A28997 triacylglycerol lias	4.32e-01
18	73	22.5	999	1	UJHGC3 desmoglein 3 precuso	6.34e-01
19	72	22.2	65	2	S16019 neurotoxin 6 - Indian	9.27e-01
20	72	22.2	71	1	N2N15 long neurotoxin 1 - m	9.27e-01
21	72	22.2	745	2	C70848 probable icd2 protein	9.27e-01
22	71	21.8	583	2	S19476 hypothetical protein	1.35e+00
23	70	21.5	91	2	G71562 probable ferredoxin 1	1.96e+00

24	70	21.5	202	2	A33176	p21 protein - soybean	1.96e+00
25 <td>70 <td>21.5 <td>218 <td>2 <td>E70542 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td></td></td>	70 <td>21.5 <td>218 <td>2 <td>E70542 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td></td>	21.5 <td>218 <td>2 <td>E70542 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td>	218 <td>2 <td>E70542 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td>	2 <td>E70542 <td>hypothetical protein</td> <td>1.96e+00</td> </td>	E70542 <td>hypothetical protein</td> <td>1.96e+00</td>	hypothetical protein	1.96e+00
26 <td>70 <td>21.5 <td>317 <td>2 <td>H70566 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td></td></td>	70 <td>21.5 <td>317 <td>2 <td>H70566 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td></td>	21.5 <td>317 <td>2 <td>H70566 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td></td>	317 <td>2 <td>H70566 <td>hypothetical protein</td> <td>1.96e+00</td> </td></td>	2 <td>H70566 <td>hypothetical protein</td> <td>1.96e+00</td> </td>	H70566 <td>hypothetical protein</td> <td>1.96e+00</td>	hypothetical protein	1.96e+00
27 <td>70 <td>21.5 <td>570 <td>2 <td>S35069 <td>transcription factor</td> <td>1.96e+00</td> </td></td></td></td></td>	70 <td>21.5 <td>570 <td>2 <td>S35069 <td>transcription factor</td> <td>1.96e+00</td> </td></td></td></td>	21.5 <td>570 <td>2 <td>S35069 <td>transcription factor</td> <td>1.96e+00</td> </td></td></td>	570 <td>2 <td>S35069 <td>transcription factor</td> <td>1.96e+00</td> </td></td>	2 <td>S35069 <td>transcription factor</td> <td>1.96e+00</td> </td>	S35069 <td>transcription factor</td> <td>1.96e+00</td>	transcription factor	1.96e+00
28 <td>70 <td>21.5 <td>591 <td>2 <td>A40684 <td>early B-cell factor -</td> <td>1.96e+00</td> </td></td></td></td></td>	70 <td>21.5 <td>591 <td>2 <td>A40684 <td>early B-cell factor -</td> <td>1.96e+00</td> </td></td></td></td>	21.5 <td>591 <td>2 <td>A40684 <td>early B-cell factor -</td> <td>1.96e+00</td> </td></td></td>	591 <td>2 <td>A40684 <td>early B-cell factor -</td> <td>1.96e+00</td> </td></td>	2 <td>A40684 <td>early B-cell factor -</td> <td>1.96e+00</td> </td>	A40684 <td>early B-cell factor -</td> <td>1.96e+00</td>	early B-cell factor -	1.96e+00
29 <td>70 <td>21.5 <td>647 <td>2 <td>JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td> </td></td></td></td></td>	70 <td>21.5 <td>647 <td>2 <td>JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td> </td></td></td></td>	21.5 <td>647 <td>2 <td>JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td> </td></td></td>	647 <td>2 <td>JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td> </td></td>	2 <td>JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td> </td>	JE0337 <td>Frizzled-1 protein -</td> <td>1.96e+00</td>	Frizzled-1 protein -	1.96e+00
30 <td>69 <td>21.2 <td>108 <td>2 <td>H69834 <td>hypothetical protein</td> <td>2.84e+00</td> </td></td></td></td></td>	69 <td>21.2 <td>108 <td>2 <td>H69834 <td>hypothetical protein</td> <td>2.84e+00</td> </td></td></td></td>	21.2 <td>108 <td>2 <td>H69834 <td>hypothetical protein</td> <td>2.84e+00</td> </td></td></td>	108 <td>2 <td>H69834 <td>hypothetical protein</td> <td>2.84e+00</td> </td></td>	2 <td>H69834 <td>hypothetical protein</td> <td>2.84e+00</td> </td>	H69834 <td>hypothetical protein</td> <td>2.84e+00</td>	hypothetical protein	2.84e+00
31 <td>69 <td>21.2 <td>118 <td>2 <td>S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td> </td></td></td></td></td>	69 <td>21.2 <td>118 <td>2 <td>S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td> </td></td></td></td>	21.2 <td>118 <td>2 <td>S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td> </td></td></td>	118 <td>2 <td>S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td> </td></td>	2 <td>S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td> </td>	S54309 <td>hypothetical 13.2K pr</td> <td>2.84e+00</td>	hypothetical 13.2K pr	2.84e+00
32 <td>69 <td>21.2 <td>127 <td>2 <td>T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td> </td></td></td></td></td>	69 <td>21.2 <td>127 <td>2 <td>T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td> </td></td></td></td>	21.2 <td>127 <td>2 <td>T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td> </td></td></td>	127 <td>2 <td>T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td> </td></td>	2 <td>T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td> </td>	T08097 <td>osmotin - sweet orang</td> <td>2.84e+00</td>	osmotin - sweet orang	2.84e+00
33 <td>69 <td>21.2 <td>147 <td>2 <td>S49526 <td>protein kinase homo</td> <td>2.84e+00</td> </td></td></td></td></td>	69 <td>21.2 <td>147 <td>2 <td>S49526 <td>protein kinase homo</td> <td>2.84e+00</td> </td></td></td></td>	21.2 <td>147 <td>2 <td>S49526 <td>protein kinase homo</td> <td>2.84e+00</td> </td></td></td>	147 <td>2 <td>S49526 <td>protein kinase homo</td> <td>2.84e+00</td> </td></td>	2 <td>S49526 <td>protein kinase homo</td> <td>2.84e+00</td> </td>	S49526 <td>protein kinase homo</td> <td>2.84e+00</td>	protein kinase homo	2.84e+00
34 <td>69 <td>21.2 <td>376</td> <td>2 <td>T09578 <td>nuclear protein JUS1</td> <td>2.84e+00</td> </td></td></td></td>	69 <td>21.2 <td>376</td> <td>2 <td>T09578 <td>nuclear protein JUS1</td> <td>2.84e+00</td> </td></td></td>	21.2 <td>376</td> <td>2 <td>T09578 <td>nuclear protein JUS1</td> <td>2.84e+00</td> </td></td>	376	2 <td>T09578 <td>nuclear protein JUS1</td> <td>2.84e+00</td> </td>	T09578 <td>nuclear protein JUS1</td> <td>2.84e+00</td>	nuclear protein JUS1	2.84e+00
35 <td>69 <td>21.2 <td>457 <td>1 <td>ACB0A1</td> <td>nicotinic acetylcholi</td> <td>2.84e+00</td> </td></td></td></td>	69 <td>21.2 <td>457 <td>1 <td>ACB0A1</td> <td>nicotinic acetylcholi</td> <td>2.84e+00</td> </td></td></td>	21.2 <td>457 <td>1 <td>ACB0A1</td> <td>nicotinic acetylcholi</td> <td>2.84e+00</td> </td></td>	457 <td>1 <td>ACB0A1</td> <td>nicotinic acetylcholi</td> <td>2.84e+00</td> </td>	1 <td>ACB0A1</td> <td>nicotinic acetylcholi</td> <td>2.84e+00</td>	ACB0A1	nicotinic acetylcholi	2.84e+00
36 <td>68 <td>20.9</td> <td>1339</td> <td>2 <td>A55301</td> <td>1,3-beta-D-glucan-bin</td> <td>2.84e+00</td> </td></td>	68 <td>20.9</td> <td>1339</td> <td>2 <td>A55301</td> <td>1,3-beta-D-glucan-bin</td> <td>2.84e+00</td> </td>	20.9	1339	2 <td>A55301</td> <td>1,3-beta-D-glucan-bin</td> <td>2.84e+00</td>	A55301	1,3-beta-D-glucan-bin	2.84e+00
37 <td>68 <td>20.9</td> <td>224</td> <td>2 <td>B72699 <td>hypothetical protein</td> <td>4.10e+00</td> </td></td></td>	68 <td>20.9</td> <td>224</td> <td>2 <td>B72699 <td>hypothetical protein</td> <td>4.10e+00</td> </td></td>	20.9	224	2 <td>B72699 <td>hypothetical protein</td> <td>4.10e+00</td> </td>	B72699 <td>hypothetical protein</td> <td>4.10e+00</td>	hypothetical protein	4.10e+00
38 <td>68 <td>20.9</td> <td>267 <td>1 <td>UJ0724</td> <td>interleukin-1 beta pr</td> <td>4.10e+00</td> </td></td></td>	68 <td>20.9</td> <td>267 <td>1 <td>UJ0724</td> <td>interleukin-1 beta pr</td> <td>4.10e+00</td> </td></td>	20.9	267 <td>1 <td>UJ0724</td> <td>interleukin-1 beta pr</td> <td>4.10e+00</td> </td>	1 <td>UJ0724</td> <td>interleukin-1 beta pr</td> <td>4.10e+00</td>	UJ0724	interleukin-1 beta pr	4.10e+00
39 <td>68 <td>20.9</td> <td>641</td> <td>2 <td>A45054</td> <td>probable intercellula</td> <td>4.10e+00</td> </td></td>	68 <td>20.9</td> <td>641</td> <td>2 <td>A45054</td> <td>probable intercellula</td> <td>4.10e+00</td> </td>	20.9	641	2 <td>A45054</td> <td>probable intercellula</td> <td>4.10e+00</td>	A45054	probable intercellula	4.10e+00
40 <td>67 <td>20.6</td> <td>102</td> <td>2 <td>T14998 <td>hypothetical protein</td> <td>5.89e+00</td> </td></td></td>	67 <td>20.6</td> <td>102</td> <td>2 <td>T14998 <td>hypothetical protein</td> <td>5.89e+00</td> </td></td>	20.6	102	2 <td>T14998 <td>hypothetical protein</td> <td>5.89e+00</td> </td>	T14998 <td>hypothetical protein</td> <td>5.89e+00</td>	hypothetical protein	5.89e+00
41 <td>67 <td>20.6</td> <td>343</td> <td>2 <td>S09272</td> <td>ig alpha chain C regi</td> <td>5.89e+00</td> </td></td>	67 <td>20.6</td> <td>343</td> <td>2 <td>S09272</td> <td>ig alpha chain C regi</td> <td>5.89e+00</td> </td>	20.6	343	2 <td>S09272</td> <td>ig alpha chain C regi</td> <td>5.89e+00</td>	S09272	ig alpha chain C regi	5.89e+00
42 <td>67 <td>20.6</td> <td>351</td> <td>2 <td>C72508 <td>hypothetical protein</td> <td>5.89e+00</td> </td></td></td>	67 <td>20.6</td> <td>351</td> <td>2 <td>C72508 <td>hypothetical protein</td> <td>5.89e+00</td> </td></td>	20.6	351	2 <td>C72508 <td>hypothetical protein</td> <td>5.89e+00</td> </td>	C72508 <td>hypothetical protein</td> <td>5.89e+00</td>	hypothetical protein	5.89e+00
43 <td>67 <td>20.6</td> <td>357</td> <td>2 <td>S09269 <td>ig alpha chain C regi</td> <td>5.89e+00</td> </td></td></td>	67 <td>20.6</td> <td>357</td> <td>2 <td>S09269 <td>ig alpha chain C regi</td> <td>5.89e+00</td> </td></td>	20.6	357	2 <td>S09269 <td>ig alpha chain C regi</td> <td>5.89e+00</td> </td>	S09269 <td>ig alpha chain C regi</td> <td>5.89e+00</td>	ig alpha chain C regi	5.89e+00
44 <td>67 <td>20.6</td> <td>513</td> <td>1 <td>ACCHD1</td> <td>nicotinic acetylcholi</td> <td>5.89e+00</td> </td></td>	67 <td>20.6</td> <td>513</td> <td>1 <td>ACCHD1</td> <td>nicotinic acetylcholi</td> <td>5.89e+00</td> </td>	20.6	513	1 <td>ACCHD1</td> <td>nicotinic acetylcholi</td> <td>5.89e+00</td>	ACCHD1	nicotinic acetylcholi	5.89e+00
45 <td>67 <td>20.6</td> <td>819</td> <td>2 <td>C71544</td> <td>leucine--tRNA ligase</td> <td>5.89e+00</td> </td></td>	67 <td>20.6</td> <td>819</td> <td>2 <td>C71544</td> <td>leucine--tRNA ligase</td> <td>5.89e+00</td> </td>	20.6	819	2 <td>C71544</td> <td>leucine--tRNA ligase</td> <td>5.89e+00</td>	C71544	leucine--tRNA ligase	5.89e+00

## ALIGNMENTS

## RESULT 1

ENTRY 1 A36000 #type complete  
 TITLE sperm-binding glycoprotein ZP3 precursor - human  
 ALTERNATE\_NAMES sperm receptor ZP3; zona pellucida glycoprotein ZP3  
 ORGANISM Homo sapiens #common\_name man  
 DATE 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 10-Sep-1999

ACCESSIONS A36000; A44365  
 REFERENCE A36000  
 #authors Chamberlin, M.E.; Dean, J.  
 #journal Proc. Natl. Acad. Sci. U.S.A. (1990) 87:6014-6018  
 #title Human homolog of the mouse sperm receptor.  
 #cross-references M01D:90349545  
 #accession A36000  
 #molecule\_type mRNA; DNA  
 #residues 1-424 ##label CHA  
 #cross-references GB:M60504; GB:M35109; NID:g340491; PIDN:AA61336.1; PID:g340492

## REFERENCE

#authors A44365  
 van Duin, M.; Polman, J.E.; Verkoelen, C.C.; Bunschoten, H.; Meyerink, J.H.; Olijve, W.; Alken, R.J.  
 #journal Genomics (1992) 14:1064-1070  
 #title Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations.  
 #cross-references M01D:93122771  
 #accession A44365  
 #status preliminary  
 #molecule\_type mRNA  
 #residues 329-370, 'S', 372-424 ##label VAN  
 #experimental\_source ovary  
 #note sequence inconsistent with the nucleotide translation sequence extracted from NCBI backbone (NCBIN:122392, NCBI:122392)

COMMENT This sulfated glycoprotein in the zona pellucida of the oocyte is a receptor for sperm binding. It has O-linked as well as N-linked carbohydrate.

## GENETICS

#gene GDB:ZP3A  
 #cross-references GDB:128007; OMIM:182889

#map\_position 7pter-7qter  
 CLASSIFICATION\* #superfamily sperm-binding glycoprotein ZP3; ZP domain

## KEYWORDS

glycoprotein; oocyte; receptor; sulfoprotein; transmembrane protein

## FEATURE

```

1-22      23-424      #domain signal sequence #status predicted #label SIG\
SUMMARY    45-301      #product sperm-binding glycoprotein ZP3 #status
              #length 424 #molecular-weight 47028 #checksum 5505

Query Match
Best Local Similarity 95.1%; Pred. No. 3.56e-55;
Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 308 SWFVPGADICCCCKGDCGTPSHSRPQPHVMSQMSRSAS 348
QY 1 SWFVPGADICCCCKGDCGTPSHSRPQPHVMSQMSRSAS 41

RESULT 2
ENTRY    A56844      #type complete
TITLE    POM-ZP3 protein - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE     19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change
17-Mar-1999

ACCESSIONS
REFERENCE A56844
#authors Kipierstok, S.; Osawa, G.A.; Liang, L.; Modi, W.S.; Dean, J.
#journal Genomics (1995) 25:354-359
#title   POM-ZP3, a bipartite transcript derived from human ZP3 and a
          POM121 homologue.
#cross-references MUID:95309900
#accession A56844
#status preliminary
#molecule_type mRNA
#residues 1-210 ##label KIP
#cross-references GB:U10099; NID:607803; PID:607804
#length 210 #molecular-weight 23196 #checksum 5951

SUMMARY
Query Match
Best Local Similarity 87.8%; Pred. No. 1.63e-48;
Matches 36; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Db 146 SWFVPGADICCCCKGDCGTPSHSRPQPHVMSQMSRSAS 186
QY 1 SWFVPGADICCCCKGDCGTPSHSRPQPHVMSQMSRSAS 41

RESULT 3
ENTRY    S70396      #type complete
TITLE    zona pellucida glycoprotein C - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE     28-Oct-1996 #sequence_revision 27-Feb-1997 #text_change
20-Aug-1999

ACCESSIONS
REFERENCE S70396
#authors Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
          Yurewicz, E.C.; Sacco, A.G.
#journal DNA Seg. (1994) 4:361-393
#title   Cloning and characterization of zona pellucida genes and
          cDNAs from a variety of mammalian species: the ZPA, ZPB and
          ZPC gene families.
#cross-references MUID:95143578
#accession S70396
#status preliminary
#molecule_type mRNA
#residues 1-426 ##label HAR
#cross-references EMBL:U05780; NID:9458276; PID:AAA74387.1;
          PID:9458277

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

FEATURE 43-299      #domain ZP domain homology #label ZPH
SUMMARY    #length 426 #molecular-weight 47367 #checksum 16286;

Query Match
Best Local Similarity 60.0%; Pred. No. 1.13e-30;

```

```

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

Db 307 WPEVGSADICRCCKGSGCLPGRSRLSLERGMKRSYS 346
QY 2 WPEVGSADICRCCKGSGCLPGRSRLSLERGMKRSYS 41

RESULT 4
ENTRY    A60503      #type complete
TITLE    sperm-binding glycoprotein ZP3 precursor - golden hamster
ALTERNATE_NAMES sperm receptor: zona pellucida glycoprotein ZP3
ORGANISM #formal_name Mesocricetus auratus #common_name golden hamster
DATE     10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
10-Sep-1999

ACCESSIONS
REFERENCE A60503
#authors Kinloch, R.A.; Ruiz-Seiler, B.; Nassarman, P.M.
#journal Dev. Biol. (1990) 142:414-421
#title   Genomic organization and polypeptide primary structure of
          zona pellucida glycoprotein hZP3, the hamster sperm
          receptor.
#cross-references MUID:91078540
#accession A60503
#molecule_type DNA
#residues 1-422 ##label KIN
#cross-references GB:M63629
#note    the authors translated the codon CAA for residue 251 as
          Glu, and AGG for residue 303 as Lys
          This sulfated glycoprotein in the zona pellucida of the oocyte is a
          receptor for sperm binding. It has O-linked as well as N-linked
          carbohydrate.

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
homology
glycoprotein: oocyte

KEYWORDS
FEATURE 45-300      #domain ZP domain homology #label ZPH
SUMMARY    #length 422 #molecular-weight 45801 #checksum 6117

Query Match
Best Local Similarity 56.1%; Pred. No. 6.33e-27;
Matches 23; Conservative 11; Mismatches 7; Indels 0; Gaps 0;

Db 307 SMSVPGDAEYCCGCGSSGSSRSRYQAHGVQWPKRSAS 347
QY 1 SMSVPGDAEYCCGCGSSGSSRSRYQAHGVQWPKRSAS 41

RESULT 5
ENTRY    S70399      #type complete
TITLE    zona pellucida glycoprotein C - cat
ORGANISM #formal_name Felis silvestris catus #common_name domestic cat
DATE     28-Oct-1996 #sequence_revision 27-Feb-1997 #text_change
20-Aug-1999

ACCESSIONS
REFERENCE S70399
#authors Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
          Yurewicz, E.C.; Sacco, A.G.
#journal DNA Seg. (1994) 4:361-393
#title   Cloning and characterization of zona pellucida genes and
          cDNAs from a variety of mammalian species: the ZPA, ZPB and
          ZPC gene families.
#cross-references MUID:95143578
#accession S70399
#status preliminary
#molecule_type mRNA
#residues 1-424 ##label HAR
#cross-references EMBL:U05778; NID:9458272; PID:AAA74390.1;
          PID:9458273

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

FEATURE 43-299      #domain ZP domain homology #label ZPH
SUMMARY    #length 424 #molecular-weight 46853 #checksum 5337

```

```

KEYWORDS      glycoprotein; oocyte; sulfoprotein; transmembrane protein
FEATURE
1-122         #domain signal sequence #status predicted #label S1E\
25-424        #product sperm-binding glycoprotein ZP3 #status
45-302        #predicted #label MAT\
146,304,327,330 #domain ZP domain homology #label ZPH\
                #binding_site carbohydrate (Asn) (covalent) #status
                predicted\
273           #binding site carbohydrate (Asn) (covalent) #status
                experimental
SUMMARY
Query Match   #length 424 #molecular-weight 46303 #checksum 7302
Best Local    Similarity 52.9%; Score 172; DB 1; Length 424;
Matches       22; Conservative 9; Pred. No. 3,54e-21; Mismatches 10; Indels 0; Gaps 0;

Db 309 SWLPEBGADIDCCSHGNCSSSSSQFQIHERGRMSKLV 349
QY 1 SWEPVGGPADICCCNKNGDCGTPSHSRPHVMSQMSRSV 41
||||:|||||:||||:||||:||||:||||:||||:||||:
RESULT        7
ENTRY         S70433 #type complete
TITLE         zona pellucida glycoprotein C - pig
ORGANISM      #formal_name Sus scrofa domestica #common_name domestic pig
DATE          10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
              10-Sep-1999
ACCESSIONS    S70433
REFERENCE     S70396
AUTHORS       Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
              Yulewicz, E.C.; Sacco, A.G.
              DNA Seq. (1994) 4:361-393
              Cloning and characterization of zona pellucida genes and
              CDNA's from a variety of mammalian species: the ZPA, ZPB and
              ZPC gene families.
              #cross-references MUID:95143578
#accession    S70433
##status      preliminary
##molecule_type mRNA
##residues    1-421 #label HAR
CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
                homology
FEATURE
44-300        #domain ZP domain homology #label ZPH
SUMMARY       #length 421 #molecular-weight 46239 #checksum 4652
Query Match   49.5%; Score 161; DB 1; Length 421;
Best Local    Similarity 70.4%; Pred. No. 1.07e-18;
Matches       19; Conservative 5; Mismatches 3; Indels 0; Gaps 0;

Db 308 WSPVGEPAVTCRCCHKGCGCTPSLSRK 334
QY 2 WFPVGGPADICCCNKNGDCGTPSHSR 28
||||:|||||:||||:||||:||||:||||:||||:
RESULT        8
ENTRY         S70402 #type complete
TITLE         zona pellucida glycoprotein C - bovine
ORGANISM      #formal_name Bos primigenius taurus #common_name cattle
DATE          10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
              10-Sep-1999
ACCESSIONS    S70402
REFERENCE     S70396
AUTHORS       Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
              Yulewicz, E.C.; Sacco, A.G.
              DNA Seq. (1994) 4:361-393
              Cloning and characterization of zona pellucida genes and
              CDNA's from a variety of mammalian species: the ZPA, ZPB and
              ZPC gene families.
              #cross-references MUID:95143578
#accession    S70402
##status      preliminary
##molecule_type mRNA

```



FEATURE  
1-30 #domain ZP domain homology (fragments) #label ZPH  
SUMMARY 1-30 #length 58 #checksum 7568

Query Match 24.9%; Score 81; DB 2; Length 58;  
Best Local Similarity 69.2%; Pred. No. 2.71e-02;  
Matches 9; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

DB 46 WSPVGPADICQC 58  
1 1111111111  
2 WFPVGPADICQC 14

RESULT 13  
ENTRY S52848 #type complete  
TITLE egg membrane protein ZP3 (clone PCOV328) - common carp  
ORGANISM #formal\_name Cyprinus carpio #common\_name common carp  
DATE 06-Jun-1995 #sequence\_revision 03-Aug-1995 #text\_change 20-Aug-1999

ACCESSIONS S52848  
REFERENCE S52845  
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.  
#submission submitted to the EMBL Data Library, April 1995  
#description Structural analysis and expression of carp ZP3 gene.  
#accession S52848  
#molecule\_type mRNA  
##residues 1-422 #label CHA  
##cross-references EMBL:248973; NID:g763079; PIDN:CAA88837.1; PID:g763080

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain homology

FEATURE 122-377  
SUMMARY #domain ZP domain homology #label ZPH  
#length 422 #molecular\_weight 46187 #checksum 8757

Query Match 24.9%; Score 81; DB 2; Length 422;  
Best Local Similarity 30.6%; Pred. No. 2.71e-02;  
Matches 11; Conservative 9; Mismatches 14; Indels 2; Gaps 2;

DB 381 GWLADGNHQAAGCCD-STCG-PGVSAAPGVGVOM 414  
1 SWFPVGPADICQCCKNGDCGTPSHSRPHVMSQW 36

RESULT 14  
ENTRY S52716 #type complete  
TITLE sperm receptor ZP3 - common carp  
ORGANISM #formal\_name Cyprinus carpio #common\_name common carp  
DATE 19-May-1995 #sequence\_revision 21-Jul-1995 #text\_change 23-May-1997

ACCESSIONS S52716  
REFERENCE S52716  
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.  
#submission submitted to the EMBL Data Library, March 1995  
#description Structural analysis and expression of carp ZP3 gene.  
#accession S52716  
#molecule\_type mRNA  
##residues 1-388 #label CHA  
##cross-references EMBL:248798  
CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain homology

FEATURE 89-343  
SUMMARY #domain ZP domain homology #label ZPH  
#length 388 #molecular\_weight 42248 #checksum 3771

Query Match 24.6%; Score 80; DB 2; Length 388;  
Best Local Similarity 30.6%; Pred. No. 4.06e-02;  
Matches 11; Conservative 9; Mismatches 14; Indels 2; Gaps 2;

DB 347 GWLADGNHQAAGCCD-STCG-PGVSAAPGVGVOM 380  
1 SWFPVGPADICQCCKNGDCGTPSHSRPHVMSQW 36

RESULT 15  
ENTRY S52847 #type fragment  
TITLE egg membrane protein ZP3 (clone PCOV638) - common carp (fragment)  
ORGANISM #formal\_name Cyprinus carpio #common\_name common carp  
DATE 09-Jun-1995 #sequence\_revision 21-Jul-1995 #text\_change 20-Aug-1999

ACCESSIONS S52847  
REFERENCE S52847  
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.  
#submission submitted to the EMBL Data Library, April 1995  
#description Structural analysis and expression of carp ZP3 gene.  
#accession S52847  
#molecule\_type mRNA  
##residues 1-424 #label CHA  
##cross-references EMBL:248972; NID:g763077; PIDN:CAA88836.1; PID:g763078

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain homology

FEATURE 110-364  
SUMMARY #domain ZP domain homology #label ZPH  
#length 424 #checksum 5555

Query Match 24.6%; Score 80; DB 2; Length 424;  
Best Local Similarity 27.8%; Pred. No. 4.06e-02;  
Matches 10; Conservative 9; Mismatches 16; Indels 1; Gaps 1;

DB 368 GWLADGNHQAAGCCD-STGLDGIASPSGVGVOM 402  
1 SWFPVGPADICQCCKNGDCGTPSHSRPHVMSQW 36

Search completed: Fri Apr 28 14:26:59 2000  
Job time : 55 secs.

**THIS PAGE BLANK (USPTO)**

\*\*\*\*\*  
 WISE (TM)  
 \*\*\*\*\*

Release 3.1A John F. Collins, BioComputing Research Unit.  
 Copyright (c) 1993-1998 University of Edinburgh, U.K.  
 Distribution rights by Oxford Molecular Ltd

\*\*\*\*\*  
 Msrch\_pp protein - protein database search, using Smith-Waterman algorithm  
 Run on: Fri Apr 28 14:23:32 2000; Maspar time 3.68 Seconds  
 Tabular output not generated. 332.330 Million cell updates/sec

Title: >US-09-252-828-1  
 Description: (1-41) From US09252828.pep  
 Perfect Score: 325  
 Sequence: 1 SWFPGVQGPADICQCCNKNGDCGTPSHSRQPHVMSQMSRSYS 41

Scoring table: PAM 150  
 Gap 11

Searched: 82229 seqs, 29864866 residues

Post-processing: Minimum Match 0%  
 Listing first 45 summaries

Database: swiss-prot38  
 1:swissprot

Statistics: Mean 32.196; Variance 46.313; scale 0.695

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description	Pred. No.
1	314	96.6	424	1	ZP3A_HUMAN	18.98e-61
2	303	93.2	372	1	ZP3B_HUMAN	18.98e-58
3	301	92.6	424	1	ZP3A_MACRA	3.07e-57
4	253	77.8	424	1	ZP3A_CALSO	2.37e-44
5	213	65.5	426	1	ZP3_CANFA	7.33e-34
6	197	60.6	422	1	ZP3_MESAU	9.47e-30
7	195	60.0	424	1	ZP3_FELCA	3.06e-29
8	172	52.9	424	1	ZP3_MOUSE	1.89e-23
9	161	49.5	421	1	ZP3_PIG	9.75e-21
10	156	48.0	421	1	ZP3_BOVIN	1.62e-19
11	131	40.3	415	1	ZP3_RABIT	1.43e-13
12	76	23.4	71	1	NXL1_NAJNA	6.41e-02
13	76	23.4	71	1	NXL2_NAJNA	6.41e-02
14	75	23.1	71	1	NXL3_NAJNA	9.76e-02
15	75	23.1	71	1	NXL4_NAJNA	9.76e-02
16	75	23.1	71	1	NXL5_NAJNA	9.76e-02
17	74	22.8	74	1	NXL6_NAJNA	1.48e-01
18	74	22.8	499	1	LIPH_HUMAN	2.24e-01
19	73	22.5	999	1	DSG3_HUMAN	2.24e-01
20	72	22.2	65	1	TXM6_NAJNA	3.37e-01
21	72	22.2	71	1	NXL1_NAJNA	3.37e-01
22	71	21.8	583	1	YCV1_YEAST	5.05e-01
23	70	21.5	202	1	P21_SOTBN	7.55e-01

ID	STANDARD	PRT	424 AA.
24	70	21.5	575
25	70	21.5	584
26	70	21.5	591
27	70	21.5	596
28	69	21.2	457
29	68	20.9	267
30	68	20.9	496
31	68	20.9	574
32	68	20.9	575
33	68	20.9	579
34	67	20.6	65
35	67	20.6	457
36	67	20.6	457
37	67	20.6	513
38	67	20.6	528
39	66	20.3	313
40	66	20.3	397
41	66	20.3	482
42	66	20.3	741
43	66	20.3	1038
44	66	20.3	2813
45	65	20.0	804

## ALIGNMENTS

RESULT 1  
 ID ZP3A\_HUMAN STANDARD: PRT: 424 AA.  
 AC P21754:  
 DT 01-MAY-1991 (Rel. 18, Created)  
 DT 01-MAY-1991 (Rel. 18, Last sequence update)  
 DT 15-DEC-1999 (Rel. 39, Last annotation update)  
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A PRECURSOR (ZONA PELLUCIDA DE GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZP3).  
 GN ZP3A OR ZP3.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia;  
 OC Eutheria; Primates; Catarrhini; Homidae; Homo.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 90349545.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [2]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RC TISSUE-OVARY:  
 RX MEDLINE: 93122771.  
 RA VAN DUIN M., POLMAN J.E., VERKOELLEN C.C., BUNSCHOTEN H., MEYERINK J.H., OLIVE W., AITKEN R.J.;  
 RT "Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations."  
 RL Genomics 14:1064-1070(1992).  
 RN [3]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [4]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [5]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [6]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [7]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [8]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [9]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [10]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [11]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [12]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [13]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [14]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [15]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [16]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [17]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [18]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [19]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [20]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [21]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [22]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [23]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [24]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [25]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [26]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [27]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [28]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [29]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [30]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [31]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [32]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [33]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [34]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [35]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [36]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [37]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [38]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [39]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [40]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [41]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [42]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [43]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [44]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [45]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [46]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [47]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [48]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [49]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [50]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [51]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [52]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [53]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [54]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [55]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [56]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [57]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [58]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [59]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [60]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [61]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [62]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [63]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [64]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [65]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [66]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [67]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [68]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [69]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [70]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [71]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [72]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [73]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [74]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CHAMBERLIN M.E., DEAN J.;  
 RT "Human homolog of the mouse sperm receptor."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6014-6018(1990).  
 RN [75]  
 RP SEQUENCE OF 329-424 FROM N.A.  
 RX MEDLINE: 93122771.  
 RA CH

DR PIR: A36000; A36000.  
 DR MIM: 182889;  
 DR PROSITE: PS00682; ZP\_DOMAIN: 1.  
 DR PFAM: PF00100; zona\_pellucida; 1.  
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;  
 KW Extracellular matrix; Multigene family;  
 FT SIGNAL 1 22  
 FT CHAIN 23 424  
 FT DOMAIN 23 387 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A.  
 FT TRANSMEM 388 408 EXTRACELLULAR (POTENTIAL).  
 FT DOMAIN 409 424 CYTOPLASMIC (POTENTIAL).  
 FT CARBOHYD 125 125 POTENTIAL.  
 FT CARBOHYD 147 147 POTENTIAL.  
 FT CARBOHYD 226 226 POTENTIAL.  
 FT CARBOHYD 272 272 POTENTIAL.  
 SO SEQUENCE 424 AA; 47028 MW; 10A13B46 CRC32;

Query Match  
 Best Local Similarity 96.6%; Score 314; DB 1; Length 424;  
 Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 308 SWPVEGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 348  
 1 SWPVEGPADICCCCKGDCGTPSHSRPHVMSQMSRSYS 41

RESULT 2  
 ID ZP3B\_HUMAN STANDARD; PRT; 372 AA.  
 AC 006633;  
 DT 01-OCT-1994 (Rel. 30, Created)  
 DT 01-OCT-1994 (Rel. 30, Last sequence update)  
 DT 15-DEC-1999 (Rel. 39, Last annotation update)  
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3B PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3B) (SPERM RECEPTOR) (ZP3).  
 GN ZP3B.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;  
 OC Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-Ovary;  
 RX MEDLINE: 93122771.  
 RA VAN DIN M., POLMAN J.E., VERKOELEN C.C., BUNSCHOTEN H.,  
 RA MEERINK J.H., OLIVE W., AITKEN R.J.;  
 RT "Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations.";  
 RT Genomics 14:1064-1070(1992).  
 RL -1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPECIES-SPECIFICITY OF THE INSEMINATION, AND MAY CONTRIBUTE TO THE SPERM-ADHESION TO THE ZONA PELLUCIDA.  
 CC -1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.  
 CC -1- SUBCELLULAR LOCATION: EXTRACELLULAR MATRIX.  
 CC -1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.  
 CC -1- SIMILARITY: CONTAINS 1 ZP DOMAIN.  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC EMBL: X56777; CAA0095.1;  
 CC EMBL: A18567; CAA01398.1;  
 DR MIM: 195002;  
 DR PROSITE: PS00682; ZP\_DOMAIN: 1.  
 DR PFAM: PF00100; zona\_pellucida; 1.  
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor;  
 KW Extracellular matrix; Multigene family.

FT SIGNAL 1 22 POTENTIAL.  
 FT CHAIN 23 372 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3B.  
 FT DOMAIN 45 307 ZP  
 FT CARBOHYD 125 125 POTENTIAL.  
 FT CARBOHYD 147 147 POTENTIAL.  
 FT CARBOHYD 226 226 POTENTIAL.  
 FT CARBOHYD 272 272 POTENTIAL.  
 SO SEQUENCE 372 AA; 41424 MW; 9D714735 CRC32;

Query Match  
 Best Local Similarity 93.2%; Score 303; DB 1; Length 372;  
 Matches 38; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Db 308 SWPVEGPADICCCCKGDCGTPSHSRPHVMSQMSRSAS 348  
 1 SWPVEGPADICCCCKGDCGTPSHSRPHVMSQMSRSYS 41

RESULT 3  
 ID ZP3A\_MACACA STANDARD; PRT; 424 AA.  
 AC P53785;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 15-DEC-1999 (Rel. 39, Last annotation update)  
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZP3).  
 GN ZP3A OR ZP3.  
 OS Macaca radiata (Bonne monkey).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;  
 OC Eutheria; Primates; Catarrhini; Cercopithecoidea; Cercopithecoinae;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE-Ovary;  
 RX MEDLINE: 96249321.  
 RA KOLHURI S.K., KATL R., BANERJEE K., GUPTA S.K.;  
 RT "Nucleotide sequence of cDNA encoding bonnet monkey (Macaca radiata) zona pellucida glycoprotein-zp3.";  
 RT Reprod. Fertil. Dev. 7:1209-1212(1995).  
 RL -1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPECIES-SPECIFICITY OF THE INSEMINATION, AND MAY CONTRIBUTE TO THE SPERM-ADHESION TO THE ZONA PELLUCIDA.  
 CC -1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.  
 CC -1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.  
 CC -1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.  
 CC -1- SIMILARITY: CONTAINS 1 ZP DOMAIN.  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC EMBL: X82639; CAA57961.1;  
 DR PROSITE: PS00682; ZP\_DOMAIN: 1.  
 DR PFAM: PF00100; zona\_pellucida; 1.  
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;  
 KW Extracellular matrix; Multigene family;  
 FT SIGNAL 1 22 POTENTIAL.  
 FT CHAIN 23 424 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A.  
 FT DOMAIN 23 387 EXTRACELLULAR (POTENTIAL).  
 FT TRANSMEM 388 408 POTENTIAL.  
 FT DOMAIN 409 424 CYTOPLASMIC (POTENTIAL).  
 FT CARBOHYD 125 125 POTENTIAL.  
 FT CARBOHYD 147 147 POTENTIAL.  
 FT CARBOHYD 272 272 POTENTIAL.  
 SO SEQUENCE 424 AA; 47040 MW; F5D43A2C CRC32;



ID	NAME	STANDARD	PRT	424 AA
DB	308 SWPVEGPDADICCCCKSGDCGTPSHSRQPHVWSQMSRSAS			348
QY	1 SWPVEGPDADICCCCKSGDCGTPSHSRQPHVWSQMSRSAS			41
RESULT	4	STANDARD	PRT	424 AA
AC	2P3A_CALSO			
AC	P53786;			
DT	01-OCT-1996 (Rel. 34, Created)			
DT	01-OCT-1996 (Rel. 34, Last sequence update)			
DT	15-DEC-1999 (Rel. 39, Last annotation update)			
DE	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A (ZONA PELLUCIDA GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZP3).			
GN	ZP3A OR ZP3.			
OS	Callithrix sp. (Marmoset).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;			
OC	Eutheria; Primates; Platyrrhini; Callitrichidae; Callitrix.			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE-OVARY.			
RX	MEDLINE; 94363314.			
RA	THILAI-KOOTKAN P., VAN DUIN M., AITKEN R.J.;			
RT	"Cloning, sequencing and oocyte-specific expression of the marmoset sperm receptor protein, ZP3."			
RL	Zyote 1:93-101(1993).			
CC	-1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.			
CC	-1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.			
CC	-1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.			
CC	-1- PM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.			
CC	-1- SIMILARITY: CONTAINS 1 ZP DOMAIN.			
CC	-----			
CC	CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL Outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> ).			
CC	or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> .			
CC	-----			
DR	EMBL; S71825; AAB31866.1; -			
DR	PROSITE; PS00682; ZP DOMAIN; 1.			
DR	PFAM; PF00100; zona.pellucida; 1.			
KW	Glycoprotein; Signal; Multigene family; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.			
FT	SIGNAL	1	22	POTENTIAL.
FT	CHAIN	23	424	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A.
FT	DOMAIN	23	387	EXTRACELLULAR (POTENTIAL).
FT	TRANSEM	388	408	POTENTIAL.
FT	DOMAIN	409	424	CYTOPLASMIC (POTENTIAL).
FT	DOMAIN	45	307	ZP.
FT	CARBOHYD	125	125	POTENTIAL.
FT	CARBOHYD	147	147	POTENTIAL.
FT	CARBOHYD	180	180	POTENTIAL.
FT	CARBOHYD	272	272	POTENTIAL.
SEQUENCE	424 AA: 46809 MW: 22463AAD CRC32:			
Query Match	77.8%;	Score 253;	DB 1;	Length 424;
Best Local Similarity	88.2%;	Pred. No. 2.37e-44;		
Matches	30;	Conservative	4;	Mismatches 0;
			Indels	0;
			Gaps	0;
Db	308 SWPVEGPDADICCCCKSGDCGTPSHSRQPHVWSQMSRSAS			341
QY	1 SWPVEGPDADICCCCKSGDCGTPSHSRQPHVWSQMSRSAS			34

ID	RESULT
DB	ZP3 CANFA STANDARD; PRT: 426 AA.
AC	p48831:
DJ	01-FEB-1996 (Rel. 33, Created)
DT	01-FEB-1996 (Rel. 33, Last sequence update)
DT	15-DEC-1999 (Rel. 39, Last annotation update)
DE	ZONA PELLUICIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUICIDA GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUICIDA PROTEIN C).
GK	ZP3 OR ZPC.
GN	Canis familiaris (Dog).
OS	Eukaryota; Metazoa; Chordata; Craniata; Vertebrate; Mammalia;
OC	Eutheria; Carnivora; Fissipedia; Canidae; Canis.
RN	[1]
RP	SEQUENCE FROM N.A.
RC	TISSUE-OVARY:
RA	MEDLINE: 95143578.
RA	HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C., SACCIO A.G. ;
RT	"Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the zPa, zPB and zPC gene families." ; DNA Seq. 4:361-393(1994).
RN	[2]
RP	SEQUENCE FROM N.A.
RC	TISSUE-OVARY:
RA	OKAZAKI Y., SUGIMOTO M.; Submitted (JAN-1995) to the EMBL/GeneBank/DDBJ databases.
CC	- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).
CC	- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUICIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
CC	- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
CC	- PIN: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES (BY SIMILARITY).
CC	- SIMILARITY: CONTAINS 1 ZP DOMAIN. -----
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outpost - CC the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@lsb.slb.ch). -----
DR	EMBL; U05780; AAA74387.1; -.
DR	EMBL; D43070; BAAB0898.1; -.
DR	PROSITE; PS00682; ZP_DOMAIN; 1.
KD	PfAM; PF00100; zona_pellucid_1.
KW	Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.
FT	SIGNAL 1 22 POTENTIAL.
FT	CHAIN 23 426 ZONE PELLUICIDA SPERM-BINDING PROTEIN 3.
FT	DOMAIN 23 385 EXTRACELLULAR (POTENTIAL).
FT	TRANSMEM 386 406 POTENTIAL.
FT	DOMAIN 407 426 CYTOPLASMIC (POTENTIAL).
FT	DOMAIN 423 430 ZP.
FT	CARBONYD 123 123 POTENTIAL.
FT	CARBONYD 145 145 POTENTIAL.
FT	CARBONYD 244 244 POTENTIAL.
FT	CONFLICT 227 227 L->P (IN REF. 2).
FT	CONFLICT 307 307 W->S (IN REF. 2).
FT	CONFLICT 343 343 K->R (IN REF. 2).
SO	SEQUENCE 426 AA; 47367 MW; 9CBIDDE2 CRC32;.
Db	Query Match Best Local Similarity 65.5%; Score 213; DB 1; Length 426; Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;
y	wyfvgsadiorccnkgscglpgsrarllshldgcrkrsys 346 1::   :   ::::           ::::    :<: <<::    2 wfpvoggpadicqccckngdcpshrroprhwmsownsrsvs 41

```

RESULT      6
ID          ZP3_MESAU      STANDARD:      PRT:      422 AA.
AC          P23491;
DT          01-NOV-1991 (Rel. 20, Created)
DE          01-FEB-1996 (Rel. 33, Last sequence update)
DT          15-DEC-1999 (Rel. 39, Last annotation update)
DE          ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA
DE          GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
GN          ZP3.
OS          Mesocricetus auratus (Golden hamster).
OC          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC          Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae; Mesocricetus.
RN          [1]
RP          SEQUENCE FROM N.A.
RC          TISSUE-OVARY;
RX          KINIOCH R.A., RUIZ-SELLER B., MASSARMAN P.M.;
              MEDLINE; 91078540.
RT          "Genomic organization and polypeptide primary structure of zona
RT          pellucida glycoprotein h2p3, the hamster sperm receptor."
RL          Dev. Biol. 142:414-421(1991).
CC          -1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR
CC          SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE
CC          SPECIES-SPECIFICITY OF THE INSEMINATION.
CC          -1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN
CC          WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
CC          -1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR
CC          MATRIX.
CC          -1- TISSUE SPECIFICITY: OOCYTES.
CC          -1- DEVELOPMENTAL STAGE: GROWING OOCYTES.
CC          -1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
CC          -1- SIMILARITY: CONTAINS 1 ZP DOMAIN.
CC          -----
CC          This SWISS-PROT entry is copyright. It is produced through a collaboration
CC          between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC          the European Bioinformatics Institute. There are no restrictions on its
CC          use by non-profit institutions as long as its content is in no way
CC          modified and this statement is not removed. Usage by and for commercial
CC          entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC          or send an email to license@isb-sib.ch).
CC          -----
DR          EMBL; M63629; AAA37079.1; -.
DR          PROSITE; PS00682; ZP_DOMAIN; 1.
DR          PFM; PF00100; zona_pellucida; 1.
KW          Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
KW          Extracellular matrix.
FT          SIGNAL          1          22
FT          CHAIN          23          422
FT          DOMAIN          23          386
FT          TRANSMEM          387          407
FT          DOMAIN          408          422
FT          DOMAIN          45          306
FT          DOMAIN          119          158
FT          DOMAIN          208          257
FT          CARBOHYD          146          146
FT          CARBOHYD          271          271
FT          CARBOHYD          302          302
SQ          SEQUENCE          422 AA; 45827 MW; 22B720F5 CRC32;

Query Match          60.6%; Score 197; DB 1; Length 422;
Best Local Similarity 56.1%; Pred. No. 9,47e-30;
Matches          23; Conservative          11; Mismatches          7; Indels          0; Gaps          0;

```

```

DT          15-DEC-1999 (Rel. 39, Last annotation update)
DE          ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA
DE          GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
GN          ZP3 OR ZPC.
OS          Felis silvestris catus (Cat).
OC          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC          Eutheria; Carnivora; Fissipedia; Felidae; Felis.
RN          [1]
RP          SEQUENCE FROM N.A.
RC          TISSUE-OVARY;
RX          MEDLINE; 95143578.
RA          HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C.,
RA          SACCO A.G.;
RT          "Cloning and characterization of zona pellucida genes and cDNAs from
RT          a variety of mammalian species: the ZPA, ZPB and ZPC gene families."
RT          DNA Seq. 4:361-393(1994).
RN          [2]
RP          SEQUENCE FROM N.A.
RC          TISSUE-OVARY;
RA          OKAZAKI Y., SUGIMOTO M.;
RA          Submitted (JAN-1995) to the EMBL/GenBank/DBJ databases.
CC          -1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR
CC          SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE
CC          SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).
CC          -1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN
CC          WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
CC          -1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR
CC          MATRIX.
CC          -1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES (BY
CC          SIMILARITY).
CC          -1- SIMILARITY: CONTAINS 1 ZP DOMAIN.
CC          -----
CC          This SWISS-PROT entry is copyright. It is produced through a collaboration
CC          between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC          the European Bioinformatics Institute. There are no restrictions on its
CC          use by non-profit institutions as long as its content is in no way
CC          modified and this statement is not removed. Usage by and for commercial
CC          entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC          or send an email to license@isb-sib.ch).
CC          -----
DR          EMBL; U05778; AAA74390.1; -.
DR          EMBL; D45068; BAA08096.1; -.
DR          PROSITE; PS00682; ZP_DOMAIN; FALSE_NEG.
DR          PFM; PF00100; zona_pellucida; 1.
KW          Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
KW          Extracellular matrix; Multigene family.
FT          SIGNAL          1          22
FT          CHAIN          23          424
FT          DOMAIN          23          383
FT          TRANSMEM          384          404
FT          DOMAIN          405          424
FT          DOMAIN          43          305
FT          DOMAIN          52          52
FT          CARBOHYD          123          123
FT          CARBOHYD          145          145
FT          CARBOHYD          72          72
FT          CONFLICT          264          264
SQ          SEQUENCE          424 AA; 46853 MW; B356F362 CRC32;

Query Match          60.0%; Score 195; DB 1; Length 424;
Best Local Similarity 55.0%; Pred. No. 3,06e-29;
Matches          22; Conservative          7; Mismatches          11; Indels          0; Gaps          0;

```

```

RESULT      7
ID          ZP3_FELCA      STANDARD:      PRT:      424 AA.
AC          P48832;
DT          01-FEB-1996 (Rel. 33, Created)
DT          01-FEB-1996 (Rel. 33, Last sequence update)

```

```

RESULT      8
ID          ZP3_MOUSE      STANDARD:      PRT:      424 AA.
AC          P10761;
DT          01-JUL-1989 (Rel. 11, Created)
DT          01-NOV-1997 (Rel. 35, Last sequence update)

```

15-DEC-1999 (Rel. 39, Last annotation update)  
 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA  
 GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).  
 ZP3 OR ZP-3.  
 Mus musculus (Mouse).  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;  
 Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 [1]  
 SEQUENCE FROM N.A.  
 RX MEDLINE: 88242926.  
 RA RINGUETTE M.J., CHAMBERLIN M.E., BAUR A.W., SOBIESKI D.A., DEAN J.;  
 RT "Molecular analysis of cDNA coding for ZP3, a sperm binding protein  
 of the mouse zona pellucida.";  
 RL Dev. Biol. 127:287-295(1988).  
 RN [2]  
 RP REVISION TO 387.  
 RA DEAN J.;  
 RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN-CD-1: TISSUE=LIVER;  
 RX MEDLINE: 89240048.  
 RA KINLOCH R.A., MASSARMAN P.M.;  
 RT "Nucleotide sequence of the gene encoding zona pellucida glycoprotein  
 ZP3 -- the mouse sperm receptor.";  
 RL Nucleic Acids Res. 17:2861-2863(1989).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 88320451.  
 RA KINLOCH R.A., ROLLER R.J., FINIANI C.M., MASSARMAN D.A.,  
 RA MASSARMAN P.M.;  
 RT "Primary structure of the mouse sperm receptor polypeptide determined  
 by genomic cloning.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 85:6409-6413(1988).  
 RN [5]  
 RP SEQUENCE OF 49-63: 197-204; 219-233 AND 261-275.  
 RC STRAIN-CD-1:  
 RX MEDLINE: 93050795.  
 RA ROSIERE T.K., MASSARMAN P.M.;  
 RT "Identification of a region of mouse zona pellucida glycoprotein mZP3  
 that possesses sperm receptor activity.";  
 RL Dev. Biol. 154:309-317(1992).  
 CC -I- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR  
 SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE  
 SPECIES-SPECIFICITY OF THE INSEMINATION.  
 CC -I- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN  
 WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.  
 CC -I- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR  
 MATRIX.  
 CC -I- TISSUE SPECIFICITY: OOCYTES.  
 CC -I- DEVELOPMENTAL STAGE: EXPRESSED DURING THE 2-WEEK GROWTH PHASE OF  
 OOGENESIS, PRIOR TO OVULATION.  
 CC -I- PIM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.  
 CC -I- SIMILARITY: CONTAINS 1 ZP DOMAIN.  
 -----  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
 between the Swiss Institute of Bioinformatics and the EMBL Outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use by non-profit institutions as long as its content is in no way  
 CC modified and this statement is not removed. Usage by and for commercial  
 CC entities requires a license agreement (see <http://www.isb-sib.ch/announce/>  
 CC or send an email to [license@sib-sib.ch](mailto:license@sib-sib.ch)).  
 -----  
 DR EMBL: M20026; AAB18629.1; -  
 DR EMBL: X14376; CA432550.1; -  
 DR PIR: S04189; S04189.  
 DR PIR: A30334; A30334.  
 DR PIR: A31232; A31232.  
 DR MGD: MGI:99215; ZP3.  
 DR PROSITE: PS00682; ZP\_DOMAIN: 1.  
 DR PFM: PF00100; zona\_pellucida.1.  
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;  
 Extracellular matrix.

FT	SIGNAL	1	22	POTENTIAL.	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.
FT	CHAIN	23	424	23	EXTRACELLULAR (POTENTIAL).
FT	DOMAIN	23	387	23	POTENTIAL.
FT	TRANSSEM	388	408	23	CYTOPLASMIC (POTENTIAL).
FT	DOMAIN	409	424	23	POTENTIAL.
FT	DOMAIN	409	424	23	POTENTIAL.
FT	CARBOHYD	146	146	23	POTENTIAL.
FT	CARBOHYD	273	273	23	POTENTIAL.
FT	CARBOHYD	304	304	23	POTENTIAL.
FT	CARBOHYD	327	327	23	POTENTIAL.
FT	CARBOHYD	330	330	23	POTENTIAL.
FT	SEQUENCE	424	AA;	46303	MM; 3C46A909 CRC32;
Query Match	Best Local Similarity	52.9%;	Score 172;	DB 1;	Length 424;
Matches	22;	Conservative	9;	Mismatches	10;
Indels	0;	Gaps	0;		
DB	309	SWLPEVGDADICDCSHONCSNSSSQFQIHGPROMSKLV	349		
QY	1	SWFPGVGPADICCCCKNKGDCCGCPESHRSRPHVMSQMSRSVS	41		
RESULT	9	STANDARD;	PRT;	421	AA.
ID	ZP3_PIG				
AC	P42096;				
DT	01-NOV-1995 (Rel. 32, Created)				
DT	01-NOV-1995 (Rel. 32, Last sequence update)				
DT	15-DEC-1999 (Rel. 39, Last annotation update)				
DE	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3-BETA PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3-BETA) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).				
GN	ZP3B OR ZPC.				
OS	Sus scrofa (Pig).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;				
OC	Eutheria; Cetartiodactyla; Suina; Suidae; Sus.				
RN	1]				
RC	SEQUENCE FROM N.A.				
RP	TISSUE-OVARY.				
RA	YUREWICZ E.C., HIBLER D., FONTENOT G.K., HARRIS J.;				
RL	Submitted (JUL-1993) to the EMBL/GenBank/DBJ databases.				
RN	12]				
RC	SEQUENCE FROM N.A.				
RP	TISSUE-OVARY.				
RA	OKAZAKI Y., SUGIMOTO M.;				
RL	Submitted (JAN-1995) to the EMBL/GenBank/DBJ databases.				
CC	-1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).				
CC	-1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP3 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.				
CC	-1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.				
CC	-1- TISSUE SPECIFICITY: OOCYTES.				
CC	-1- PM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES (BY SIMILARITY).				
CC	-1- SIMILARITY: CONTAINS 1 ZP DOMAIN.				
CC	-----				
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL Outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).				
CC	or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> .				
DR	EMBL; L22169; AAA31145.1; -				
DR	EMBL; DA5065; BAA08093.1; -				
DR	PROSITE; PS00682; ZP_DOMAIN; 1.				
DR	PF00100; zona_pellucida; 1.				
KW	Glycoprotein; signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix				
FT	SIGNAL	1	21	POTENTIAL.	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3-BETA.
FT	CHAIN	22	421	POTENTIAL.	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3-BETA.

```

FT DOMAIN 22 381 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 382 402 POTENTIAL.
FT DOMAIN 403 421 CYTOPLASMIC (POTENTIAL).
FT DOMAIN 44 306 ZP.
FT CARBOHYD 124 124 POTENTIAL.
FT CARBOHYD 146 146 POTENTIAL.
FT CARBOHYD 179 179 POTENTIAL.
FT CARBOHYD 271 271 POTENTIAL.
FT CARBOHYD 271 271 MISSING (IN REF. 2).
FT CONFLICT 101 101 D -> V (IN REF. 2).
FT CONFLICT 107 107 V -> G (IN REF. 2).
FT CONFLICT 163 164 P -> A (IN REF. 2).
FT CONFLICT 404 404
SQ SEQUENCE 421 AA; 46239 MW; B8702084 CRC32;

Query Match
Best Local Similarity 49.5%; Score 161; DB 1; Length 421;
Matches 19; Conservative 5; Mismatches 3; Indels 0; Gaps 0;

Db 308 WSPVGPADICCCCKGDCGTPSHSR 334
Qy 2 WEPVGPADICCCCKGDCGTPSHSR 28

RESULT 10
ID ZP3 BOVIN STANDARD: PRT; 421 AA.
AC P48830;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 15-DEC-1999 (Rel. 39, Last annotation update)
DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
GN ZP3 OR ZPC.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia;
OC Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Bos.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Ovary;
RX MEDLINE: 95143578.
RA HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C., SACC0 A.G.;
RT "Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.";
RL DNA Seq. 4361-393(1994).
CC -1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).
CC -1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
CC -1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
CC -1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES (BY SIMILARITY).
CC -1- SIMILARITY: CONTAINS 1 ZP DOMAIN.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).
CC EMBL: U05775; AAA74385.1;
CC PROSITE: PS00682; ZP_DOMAIN: 1.
DR PFAM: PF00100; zona_pellucida; 1.
KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 421 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.
FT DOMAIN 23 381 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 382 402 POTENTIAL.

```

```

FT DOMAIN 403 421 CYTOPLASMIC (POTENTIAL).
FT DOMAIN 44 306 ZP.
FT CARBOHYD 124 124 POTENTIAL.
FT CARBOHYD 146 146 POTENTIAL.
FT CARBOHYD 179 179 POTENTIAL.
FT CARBOHYD 271 271 POTENTIAL.
SQ SEQUENCE 421 AA; 46545 MW; B527248A CRC32;

Query Match
Best Local Similarity 48.0%; Score 156; DB 1; Length 421;
Matches 17; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

Db 308 WSPVGPADICCCCKGDCGTPSHSR 337
Qy 2 WEPVGPADICCCCKGDCGTPSHSR 31

RESULT 11
ID ZP3 RABIT STANDARD: PRT; 415 AA.
AC P48833;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C) (FRAGMENT).
GN ZP3 OR ZPC.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
OC Eutheria; Lagomorpha; Leporidae; Oryctolagus.
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Ovary;
RX MEDLINE: 95143578.
RA HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C., SACC0 A.G.;
RT "Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.";
RL DNA Seq. 4361-393(1994).
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).
CC EMBL: U05782; AAA74392.1;
CC PROSITE: PS00682; ZP_DOMAIN: 1.
DR PFAM: PF00100; zona_pellucida; 1.
KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.
FT SIGNAL 1 1 POTENTIAL.
FT CHAIN 19 415 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.
FT DOMAIN 19 378 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 379 399 POTENTIAL.
FT DOMAIN 400 415 CYTOPLASMIC (POTENTIAL).
FT DOMAIN 41 301 ZP.
SQ SEQUENCE 415 AA; 44987 MW; BA525674 CRC32;

Query Match
Best Local Similarity 40.3%; Score 131; DB 1; Length 415;
Matches 16; Conservative 7; Mismatches 8; Indels 1; Gaps 1;

Db 302 WSPVGPADICCCCKGDCGTPSHSR 333
Qy 1 WEPVGPADICCCCKGDCGTPSHSR 31

RESULT 12
ID NX1L_NAJNA STANDARD: PRT; 71 AA.

```

Query Match	Score	DB	Length
Best Local Similarity 42.3% <td>76</td> <td>1</td> <td>71</td>	76	1	71
Matches 11; Conservative 5;			
Mismatches 8;			
Indels 2;			
Gaps 2			

Db	48	VKTGVNDI-QCCSTDDCD-PEPTRRRP	71
Qy	5	VQGPADICQCCNKGDCTPSSHRRQP	30
RESULT	14	STANDARD;	PRT; 71 AA.
AC	P25672;		
DT	01-MAY-1992 (Rel. 22, Created)		
DT	01-MAY-1992 (Rel. 22, Last sequence update)		
DT	15-DEC-1998 (Rel. 37, Last annotation update)		
DE	LONG NEUROTOXIN 3 (TOXIN C).		
OS	Naja naja (Indian cobra).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Lepidosauria;		
OC	Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapinae;		
OC	Naja.		
RN	[1]		
RP	SEQUENCE.		
RC	TISSUE-VENOM.		
RA	OHRA M., SASAKI T., HAYASHI K.;		
RT	"the primary structure of toxin C from the venom of the Indian cobra		
RT	(Naja naja)."		
RL	Chem. Pharm. Bull. 29:1458-1475(1981).		
CC	-I- MISCELLANEOUS: LD(50) IS 0.10 TO 0.15 MG/KG BY SUBCUTANEOUS		
CC	INJECTION.		
DR	HSSP: P01391; 1CTX.		
DR	PROSITE; PS00272; SNAKE_TOXIN; 1.		
DR	PFAM; PF00087; toxin; 1.		
KW	Venom; Neurotoxin; Multigene family.		
FT	DISULFID 3 20		BY SIMILARITY.
FT	DISULFID 14 41		BY SIMILARITY.
FT	DISULFID 26 30		BY SIMILARITY.
FT	DISULFID 45 56		BY SIMILARITY.
FT	DISULFID 57 62		BY SIMILARITY.
SO	SEQUENCE 71 AA; 7833 MW; 41B7B968 CRC32;		
Query Match		23.1%; Score 75; DB 1; Length 71;	
Best Local Similarity	42.3%;	Pred. No. 9.76e-02;	
Matches	11; Conservative	4; Mismatches	9; Indels 2; Gaps 2.
Db	48	VKTGVNDI-QCCSTDDCD-PEPTRRRP	71
Qy	5	VQGPADICQCCNKGDCTPSSHRRQP	30
RESULT	15	STANDARD;	PRT; 71 AA.
ID	NXL4_NAJNA		
AC	P25672;		
DT	01-MAY-1992 (Rel. 22, Created)		
DT	01-MAY-1992 (Rel. 22, Last sequence update)		
DT	01-MAY-1992 (Rel. 22, Last annotation update)		
DE	LONG NEUROTOXIN 4 (TOXIN D).		
OS	Naja naja (Indian cobra).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Lepidosauria;		
OC	Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapinae;		
OC	Naja.		
RN	[1]		
RP	SEQUENCE.		
RC	TISSUE-VENOM.		
RC	MEDLINE; 82113654.		
RA	OHRA M., SASAKI T., HAYASHI K.;		
RT	"the amino acid sequence of toxin D isolated from the venom of Indian		
RT	cobra (Naja naja)."		
RL	Biochem. Biophys. Acta 671:123-128(1981).		
RL	-I- MISCELLANEOUS: LD(50) IS 0.22 MG/KG BY SUBCUTANEOUS INJECTION.		
DR	HSSP: P01391; 1CTX.		
DR	PROSITE; PS00272; SNAKE_TOXIN; 1.		
DR	PFAM; PF00087; toxin; 1.		
KW	Venom; Neurotoxin; Multigene family.		
FT	DISULFID 3 20		BY SIMILARITY.
FT	DISULFID 14 41		BY SIMILARITY.
FT	DISULFID 26 30		BY SIMILARITY.

FT DISULFID 45 56 BY SIMILARITY.  
 FT DISULFID 57 62 BY SIMILARITY.  
 SQ SEQUENCE 71 AA; 7889 MW; 3D346B3B CRC32;

Query Match 23.18; Score 75; DB 1; Length 71;  
 Best Local Similarity 42.38; Pred. No. 9,76e-02;  
 Matches 11; Conservative 4; Mismatches 9; Indels 2; Gaps 2;

Db 48 VKTGVDI-OCCSTDDCD-PPPTRRRP 71  
 QY 5 VOGPADICCCCKNGDCGTPSHRRRP 30

Search completed: Fri Apr 28 14:24:07 2000  
 Job time : 35 secs.

\*\*\*\*\*  
 WISE (TM)  
 \*\*\*\*\*

Release 3.1a John F. Collins, Biocomputing Research Unit.  
 Copyright (c) 1993-1998 University of Edinburgh, U.K.  
 Distribution rights by Oxford Molecular Ltd

\*\*\*\*\*

Run on: Fri Apr 28 14:24:25 2000; MasPar time 9.00 Seconds  
 Tabular output not generated. 315.757 Million cell updates/sec

Title: >US-09-252-828-1  
 Description: (1-41) from US09252828.pep  
 Perfect Score: 325  
 Sequence: 1 SWFPVQGPADICCCCKGDCGTPSHSRPHVMSQMSRSVS 41

Scoring table: PAM 150  
 Gap 11

Searched: 225878 seqs, 69334122 residues

Post-processing: Minimum Match 0%  
 Listing first 45 summaries

Database:

sptrembl12  
 1:sp\_archaea 2:sp\_bacteria 3:sp\_fungi 4:sp\_human  
 5:sp\_invertebrate 6:sp\_mammal 7:sp\_mhc 8:sp\_organelle  
 9:sp\_phase 10:sp\_plant 11:sp\_rodent 12:sp\_unclassified  
 13:sp\_vertebrate 14:sp\_virus

Statistics: Mean 31.925; Variance 46.387; scale 0.688

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description	Pred. No.
1	287	88.3	210	4	POM-ZP3	1.23e-52
2	167	51.4	424	11	ZONA PELUCIDA SPERM-B	1.16e-21
3	151	46.5	434	13	ZONA PELUCIDA C GLYCO	8.72e-18
4	151	46.5	460	13	GP43	8.72e-18
5	132	40.6	422	6	ZONA PELUCIDA 3 PROTE	2.57e-13
6	124	38.2	446	13	OUAIL ZPC	1.74e-11
7	123	37.8	444	13	ZPC	2.93e-11
8	86	26.5	934	2	LIPA TRANSCRIPTIONAL A	2.13e-03
9	82	25.2	428	13	ZP3	1.26e-02
10	81	24.9	422	13	FOR ZP3 (CLONE PCOV338	1.96e-02
11	80	24.6	414	13	ZONA PELUCIDA PROTEIN	3.03e-02
12	80	24.6	419	13	ZP3 GENE	3.03e-02
13	80	24.6	424	13	ZP3 (CLONE PCOV638) (F	3.03e-02
14	75	23.1	295	5	T02B11.1 PROTEIN	2.54e-01
15	75	23.1	843	2	NUOG, NADH DEHYDROGENA	2.34e-01
16	74	22.8	499	4	HEPATIC TRIGLYCERIDE L	3.84e-01
17	74	22.8	544	1	DNA ORF1-ORF5	3.84e-01
18	73	22.5	586	5	TISSUE POLARITY PROTEI	5.80e-01
19	72	22.2	338	4	CASPASE-ACTIVATED NUCL	8.72e-01
20	72	22.2	338	4	DNA FRAGMENTATION FACT	8.72e-01

# ALIGNMENTS

RESULT ID	1	PRELIMINARY	PRT	210 AA
AC	Q12903			
DT	01-NOV-1996 (Tremblrel. 01, Created)			
DT	01-NOV-1996 (Tremblrel. 01, Last sequence update)			
DT	01-NOV-1996 (Tremblrel. 08, Last annotation update)			
DE	POM-ZP3			
OS	Homo sapiens (Human)			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia;			
OC	Eutheria; Primates; Catarrhini; Hominiidae; Homo.			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE-Ovary			
RX	MEDLINE: 95309900			
RA	KIPERSZTOR S., OSAMA G.A., LIANG L.F., MODI W.S., DEAN J.,			
RT	"POM-ZP3, a bipartite transcript derived from human ZP3 and a POM121			
RT	homologue."			
RL	Genomics 25:354-359(1995).			
DR	EMBL: U10099; AAA85788.1; -			
DR	PFAM: PF00100; ZONA PELUCIDA; 1.			
SQ	SEQUENCE 210 AA; 23196 MW; A53FDB55 CRC32;			

  

Query Match	88.3%	Score 287	DB 4	Length 210
Best Local Similarity	87.8%	Pred. No. 1.23e-52		
Matches	36	Conservative	3	Mismatches 2; Indels 0; Gaps 0;

  

DB	146 SWFPVQGPADICCCCKGDCGTPSHSRPHVMSQMSRSVS 186
QY	1 SWFPVQGPADICCCCKGDCGTPSHSRPHVMSQMSRSVS 41

  

RESULT ID	2	PRELIMINARY	PRT	424 AA
AC	P97708			
DT	01-NOV-1998 (Tremblrel. 08, Created)			
DT	01-NOV-1998 (Tremblrel. 08, Last sequence update)			
DT	01-NOV-1999 (Tremblrel. 12, Last annotation update)			
DE	ZONA PELUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR			
DE	(ZONA PELUCIDA GLYCOPROTEIN ZP3) (ZONA PELUCIDA GLYCOPROTEIN 3).			
GN	ZP3 OR ZP-3			
OS	Rattus norvegicus (Rat).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia;			
OC	Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.			
RN	[1]			





```

QY      2 WFPVGGPADICCCCKNGDCGCTPSHSRRP 30

RESULT      6
ID          AC PRELIMINARY; PRT; 446 AA.
AC          073670;
DT          01-AUG-1998 (TREMBlrel. 07, Created)
DT          01-AUG-1998 (TREMBlrel. 07, Last sequence update)
DT          01-NOV-1999 (TREMBlrel. 12, Last annotation update)
DE          QOAL ZPC.
DE          Coturnix coturnix japonica (Japanese quail).
OC          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Archosauria; Aves;
OC          Neognathae; Galliformes; Phasianidae; Phasianinae; Coturnix.
CN          [1]
3P          SEQUENCE FROM N.A.
3A          KONO T., TSUDA T., AOKI N., KITAJIMA K., MATSUDA T.;
3L          Submitted (MAR-1998) to the EMBL/GenBank/DBJ databases.
CR          EMBL; AB012606; BAA25637.1; -
CR          PFAM; PF00100; zona pellucida; 1.
CR          PRINTS; PRO00023; ZPELLUCIDA.
30          SEQUENCE 446 AA; 47621 MW; 599DCBC9 CRC32;

Query Match      38.2%; Score 124; DB 13; Length 446;
Best Local Similarity 42.9%; Pred. No. 1.74e-11;
Matches 12; Conservative 8; Mismatches 8; Indels 0; Gaps 0;

Db      330 TWVPVGGSRDVCSCETGNCNDARALRR 357
QY      1 SWFPGADICCCCKNGDCGCTPSHSRR 28
        :|||::|||::|||::|||::|||
RESULT      7
ID          AC PRELIMINARY; PRT; 444 AA.
AC          P79762;
DT          01-MAY-1997 (TREMBlrel. 03, Created)
DT          01-MAY-1997 (TREMBlrel. 03, Last sequence update)
DT          01-NOV-1999 (TREMBlrel. 12, Last annotation update)
DE          ZPC.
DE          Gallus gallus (Chicken).
OC          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Archosauria; Aves;
OC          Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.
CN          [1]
RP          SEQUENCE FROM N.A.
RA          TAKUCHI Y., NISHIMURA K., ADACHI T., AOKI N., MATUDA T.;
RT          "Isolation and cDNA cloning of chicken zpc.";
RL          Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
DR          EMBL; D89097; BAA13760.1; -.
DR          PFMF; PF00100; zona pellucida; 1.
DR          PRINTS; PRO00023; ZPELLUCIDA.
SO          SEQUENCE 444 AA; 47556 MW; B40FLBDA CRC32;

Query Match      37.8%; Score 123; DB 13; Length 444;
Best Local Similarity 42.9%; Pred. No. 2.93e-11;
Matches 12; Conservative 7; Mismatches 9; Indels 0; Gaps 0;

Db      330 TWVPVGGRDVCNCGTCGNCEACALRR 357
QY      1 SWFPGADICCCCKNGDCGCTPSHSRR 28
        :|||::|||::|||::|||::|||
RESULT      8
ID          AC PRELIMINARY; PRT; 934 AA.
AC          005478;
DT          01-JUL-1997 (TREMBlrel. 04, Created)
DT          01-JUL-1997 (TREMBlrel. 04, Last sequence update)
DT          01-NOV-1998 (TREMBlrel. 08, Last annotation update)
DE          LIPA TRANSCRIPTIONAL ACTIVATOR.
DE          LIPR.
OS          Streptomyces sp.
OC          Bacteria; Firmicutes; Actinobacteria; Actinomateriidae;
OC          Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
CN          [1]
RP          SEQUENCE FROM N.A.
```

Query	Subject	Score	DB	Length	Indels	Gaps
DB	640 SVEGEGEACAAHCDALAGANPHGLAQPATATATARG 676	26.5%	29.7%	934	13	1
QY	4 PVGGPADICG-CNKGDGPRSHSRPQPHVMSQMSRS 39	26.5%	29.7%	934	13	1
RESULT	9					
ID	091984	PRELIMINARY	PRT	428 AA		
AC	091984					
DT	01-NOV-1996 (TREMBLREL.01, Created)					
DT	01-NOV-1996 (TREMBLREL.01, Last sequence update)					
DE	01-NOV-1998 (TREMBLREL.08, Last annotation update)					
GN	zp3.					
OS	Carassius auratus (Goldfish)					
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;					
CC	Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes;					
CC	Cyprinidae; Cyprinidae; Cyprinidae; Carassius.					
RN	11					
RP	SEQUENCE FROM N.A.					
RC	TISSUE-OVARY					
RA	CHANG Y., WANG S., TSAO C., HUANG F.					
RL	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	12					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR	11					
DR	SEQUENCE FROM N.A.					
DR	TISSUE-OVARY					
DR	CHANG Y., WANG S., TSAO C., HUANG F.					
DR	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.					
DR						

Query	Subject	Score	DB	Length	Mismatches	Indels	Gaps
1	381 GMLADGNHQAAGCCD-STGC-PGVGSAAPYGVQW 414	24.9%	DB 13	422	9	2	2
2	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
3	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
4	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
5	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
6	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
7	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
8	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
9	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
10	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
11	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
12	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
13	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
14	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
15	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
16	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
17	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
18	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
19	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
20	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
21	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
22	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
23	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
24	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
25	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
26	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
27	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
28	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
29	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
30	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
31	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
32	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
33	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
34	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
35	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
36	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
37	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
38	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
39	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
40	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
41	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
42	1 SMFPVQGPADICCCNKGDCTPSHSRQPHVMSQW 36	24.9%	DB 13	422	9	2	2
43	1 SMFPVQGPADICCCNKGDCTPSHSRQPHV						

RL	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.
DR	EMBL; Z48799; CA88736.1; -
DR	EMBL; L41637; AB41820.1; -
DR	PFAM; PF00100; zona_pellucida_1
SO	SEQUENCE 419 AA; 45763 MW; D6713C90 CRC32;
Dt	Query Match
	Best Local Similarity 24.6%; Score 80; DB 13; Length 419;
	Matches 11; Conservative 9; Mismatches 14; Indels 2; Gaps 2
Db	378 GWLADGNHQACGCCD-STCG-PGVGNAAPRGVQW 411
Oy	1 SWFPGPADICQCCKNGDCGTSPHSRRPVMGSQW 36
Result	13 PRELIMINARY; PRT; 424 AA.
ID	092027;
AC	092027;
DT	01-NOV-1996 (TREMBlrel_01, Created)
DT	01-NOV-1996 (TREMBlrel_01, Last sequence update)
DE	01-NOV-1998 (TREMBlrel_08, Last annotation update)
DE	ZP3 (CLONE PCOV638) (FRAGMENT).
OS	Cyprinus carpio (Common carp).
CC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;
OC	Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes;
OC	Cyprinidae; Cyprininae; Cyprinidae; Cyprininae; Cyprinus.
RN	[1]
RP	SEQUENCE FROM N.A.
RC	TISSUE-Ovary:
RA	CHANG Y., WANG S., TSAO C., HUANG F.;
RL	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.
RN	[2]
RP	SEQUENCE FROM N.A.
RC	TISSUE-Ovary;
RA	CHANG Y.S., WANG S.C., TSAO C.C., HUANG F.L.;
RL	Submitted (APR-1995) to the EMBL/GenBank/DBJ databases.
DR	EMBL; Z48972; CA88836.1; -
DR	EMBL; L41638; AB41821.1; -
DR	PFAM; PF00100; zona_pellucida_1
FT	NON_TER 1
SQ	SEQUENCE 424 AA; 46326 MW; FLE44C2F CRC32;
Dt	Query Match
	Best Local Similarity 24.6%; Score 80; DB 13; Length 424;
	Matches 10; Conservative 9; Mismatches 16; Indels 1; Gaps 1
Db	368 GWLADGNHQVCSCD-STCGLDGIIASPSGGVQW 402
Oy	1 SWFPGPADICQCCKNGDCGTSPHSRRPVMGSQW 36
Result	14 PRELIMINARY; PRT; 295 AA.
ID	016974
AC	016974;
DT	01-JAN-1998 (TREMBlrel_05, Created)
DT	01-JAN-1998 (TREMBlrel_05, Last sequence update)
DT	01-NOV-1998 (TREMBlrel_08, Last annotation update)
DE	T02B11.1 PROTEIN.
GN	T02B11.1
OS	Ctenorhabdittis elegans.
OC	Eukaryota; Metazoa; Nematoidea; Secernentea; Rhabdittia; Rhabdittida;
OC	Rhabdittina; Rhabdittioidea; Rhabdittidae; Pelodermatids; Caenorhabdittis.
RN	[1]
RP	SEQUENCE FROM N.A.
RC	STRAIN-BRISTOL NZ;
RX	MEDLINE; 94150718.
RA	BONFIELD J., BURTON J., CONNELL M., COPSEY T., COOPER J., COULSON A.,
RA	CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
RA	GARDNER A., GREEN P., HAKINS T., HILLER L., JIER M., JOHNSTON L.,
RA	JONES W., KESKAW J., KINSTEN J., LAISTER J., LATREILLE P.,
RA	LIGHTING J., LLOYD C., MCMDRAY A., MORTIMER B., O'CALLAGHAN M.,



**THIS PAGE BLANK (USPTO)**